ARIGI UV K3 CYAN INK

SUBID:000001013999

Version 1 Print Date 04-20-2017

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

1.1 Identification of the substance or mixture:

Product name : ARIGI UV K3 CYAN INK
MSDS Number : 000001013999

1.2 Use of the substance/mixture:

Use of the Substance/Preparation : Printer ink

1.3 Company/undertaking identification

Agfa Corporation
611 River Drive
Center 3
Elmwood Park, NJ 07407
U.S.A.

Transport Emergency

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

Non-transportation

Health Emergency Phone : +1 303 6235716
Agfa Information Phone : +1 201 4402500

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS (Globally Harmonized System of Classification and Labelling of Chemicals)	
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
• Hazard classes	Serious eye damage
Hazard categories	Category 1
Hazard statements	H318
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
• Hazard classes	Specific target organ toxicity - repeated exposure
Hazard categories	Category 1
Hazard statements	H372

2.2 Label elements:

Hazardous components which must be listed on the label :

Symbol(s)

GHS05

GHS07

GHS08

Hazard statements	:	H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H318	Causes serious eye damage.
		H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Precautionary statements: prevention	:	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
		P270	Do not eat, drink or smoke when using this product.
		P264	Wash ... thoroughly after handling.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P272	Contaminated work clothing should not be allowed out of the workplace.
Precautionary statements: response	:	P302+P352	IF ON SKIN: Wash with plenty of water/…
		P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
		P362	Take off contaminated clothing.
		P363	Wash contaminated clothing before reuse.
		P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
		P310	Immediately call a POISON CENTER/doctor/…
		P314	Get medical advice/attention if you feel unwell.
Precautionary statements: disposal	:	P501NA	Dispose of contents / container to an approved waste disposal facility.

SECTION 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.

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

- 2-(2-Vinyloxyethoxy) ethyl acrylate — Concentration [%] : 40.00 - 60.00
  CAS-No. : 86273-46-3
  Hazard classes : Acute toxicity Oral, Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 4, Category 1, Category 3
  Hazard statements : H302, H317, H412
- N-vinyl caprolactam — Concentration [%] : 10.00 - 20.00
  CAS-No. : 2235-00-9
  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
- Oxybis(methyl-2,1-ethanediyl) diacrylate — Concentration [%] : 5.00 - 10.00
  CAS-No. : 57472-68-1
  Hazard classes : Skin irritation, Serious eye damage, Skin sensitizer
  Hazard categories : Category 2, Category 1, Category 1
  Hazard statements : H315, H318, H317
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol — Concentration [%] : 5.00 - 10.00
  CAS-No. : 67906-98-3
  Hazard classes : Skin irritation, Serious eye irritation
  Hazard categories : Category 2, Category 2
  Hazard statements : H315, H319
- Isodecyl acrylate — Concentration [%] : 5.00 - 10.00
  CAS-No. : 1330-61-6
  Hazard classes : Serious eye irritation, Specific target organ toxicity - single exposure, Skin irritation, Chronic hazards to the aquatic environment
  Hazard categories : Category 2, Category 3, Category 2, Category 2
  Hazard statements : H319, H335, H315, H411
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- — Concentration [%] : 1.00 - 3.00
  CAS-No. : 75980-60-8
  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 [%] : 1.00 - 5.00
  CAS-No. : 162881-26-7
  Hazard classes : Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 1A, Category 4
  Hazard statements : H317, H413

- Caprolactam Concentration [%] : 0.10 - 0.50
  CAS-No. : 105-60-2
  Hazard classes : Acute toxicity Oral, Acute toxicity Inhalation, Serious eye irritation, Specific target organ toxicity - single exposure Inhalation, Skin irritation
  Hazard categories : Category 4, Category 4, Category 2, Category 3, Category 2
  Hazard statements : H302, H332, H319, H335, H315
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol Concentration [%] : 0.01 - 0.05
  CAS-No. : 128-37-0
  Hazard classes : Acute hazards to the aquatic environment, Chronic hazards to the aquatic environment
  Hazard categories : Category 1, Category 1
  Hazard statements : H400, H410
- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether Concentration [%] : 0.01 - 0.05
  CAS-No. : 150-76-5
  Hazard classes : Acute toxicity Oral, Serious eye irritation, Skin sensitizer
  Hazard categories : Category 4, Category 2, Category 1
  Hazard statements : H302, H319, H317
- Cupferron Al Concentration [%] : 0.01 - 0.05
  CAS-No. : 15305-07-4
  Hazard classes : Germ cell mutagenicity
  Hazard categories : Category 2
  Hazard statements : H341

Components with a community workplace exposure limit

- Caprolactam
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol
- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether
- Cupferron Al

M-factor

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol
  Acute hazards to the aquatic environment : 1
  Chronic hazards to the aquatic environment : 1

3.3 Remark:

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

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures:

Eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact : Immediately flush with plenty of water for at least 15 minutes while

removing contaminated clothing and shoes.

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.

SECTION 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	:	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

SECTION 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.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling	:	Prevent product from diffusing.
Hygiene measures	:	Employees should wash their hands and face before eating, drinking, or using tobacco products.Educate and train employees in the safe use and handling of this product.Emergency showers and eye wash stations should be available.
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.

SECTION 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 (US)

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

Basis	Revision Date	Value	Type
OSHA Z1A	1989	1 mg/m3	TWA

OSHA Z1A	1989	20 mg/m3 5 ppm	TWA
OSHA Z1A	1989	40 mg/m3 10 ppm	STEL
OSHA Z1A	1989	3 mg/m3	STEL
ACGIH	01 2005	5 mg/m3	TWA
ACGIH	01 2005	5 mg/m3	TWA
TN OEL	06 2008	20 mg/m3 5 ppm	TWA
TN OEL	06 2008	1 mg/m3	TWA
TN OEL	06 2008	40 mg/m3 10 ppm	STEL
TN OEL	06 2008	3 mg/m3	STEL

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
NIOSH	06 1997	10 mg/m3	REL
ACGIH	01 2005	2 mg/m3	TWA
ACGIH	01 2005	2 mg/m3	TWA
TN OEL	06 2008	10 mg/m3	TWA
US CA OEL	02 2012	10 mg/m3	TWA PEL

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
ACGIH	2004	5 mg/m3	TWA
NIOSH	06 1997	5 mg/m3	REL
TN OEL	06 2008	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
ACGIH	03 2014	1 mg/m3	TWA

Air limit values (CA)

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

Basis	Revision Date	Value	Type
CAD BC OEL	12 2005	1 mg/m3	TWA
CAD BC OEL	12 2005	3 mg/m3	STEL
CAD ON	04 2005	5 mg/m3	TWAEV

OEL			
OEL (QUE)	12 2008	1 mg/m3	TWA
OEL (QUE)	12 2008	23 mg/m3	TWA
OEL (QUE)	12 2008	46 mg/m3	STEL
OEL (QUE)	12 2008	3 mg/m3	STEL
CAD AB OEL	07 2009	5 mg/m3	TWA
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	5 mg/m3	TWA

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
CAD AB OEL	10 2003	10 mg/m3	TWA
CAD BC OEL	08 2004	2 mg/m3	TWA
CAD BC OEL	08 2004	2 mg/m3	TWA
OEL (QUE)	12 2008	10 mg/m3	TWA
CAD SK OEL	05 2009	2 mg/m3	8 HR ACL
CAD SK OEL	05 2009	4 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	2 mg/m3	TWA
CAD ON OEL	11 2010	2 mg/m3	TWAEV

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
CAD AB OEL	01 1997	5 mg/m3	TWA
CAD BC OEL	01 1997	5 mg/m3	TWA
CAD ON OEL	09 2000	5 mg/m3	TWAEV
OEL (QUE)	12 2008	5 mg/m3	TWA
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
CAD BC OEL	05 2013	1 mg/m3	TWA

CAD MB OEL	03 2014	1 mg/m3	TWA
CAD ON OEL	11 2010	1 mg/m3	TWAEV
CAD SK OEL	05 2009	10 mg/m3	8 HR ACL
CAD SK OEL	05 2009	20 mg/m3	15 MIN ACL

Biological limit values (US)

We are not aware of any national exposure limit.

Biological limit values (CA)

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.

8.2 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	:	Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR1910.134 or Canada CSA Standard Z94.4-02.
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 : long sleeved clothing EN13688

Personal protective equipment	:	Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties:

9.1.1 Appearance:

State of matter	:	Liquid
Form	:	Liquid.
Color	:	Cyan
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	:	1.038	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	:	No data available	
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	:	2.1 g/l

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicokinetics, metabolism and distribution:

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,790 mg/kg	OECD Test Guideline 401
Acute oral toxicity	LD50	rat	2,026 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	LC50	rat	5.82 mg/l/ 4 h	OECD Test Guideline 403

- 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.			

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	4,600 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD 50	Rabbit	> 2,000 mg/kg	
Acute inhalation toxicity	LC 0	Rat	0.41 mg/l/ 7 h	
	Vapor			

- 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			

- Isodecyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	+/- 4,435 mg/kg	
Acute dermal toxicity	LD 50	Rabbit	7,522 mg/kg	
Acute inhalation toxicity	LC 50	Rat	> 1.19 mg/l/ 8 h	
	Vapor			

- 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			

- Caprolactam

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,475 mg/kg	Directive 92/32/EEC, Annex V, B.1.
	Harmful by inhalation and if swallowed.			
Acute oral toxicity	LD50	rat	1,876 mg/kg	Directive 92/32/EEC, Annex V, B.1.
	Harmful by inhalation and if swallowed.			
Acute dermal toxicity	LD50	rabbit	1,440 mg/kg	Literature.
	Harmful in contact with skin.			
Acute inhalation toxicity	LC50	rat	8.16 mg/l/ 4 h	OECD Test Guideline 403
	Harmful by inhalation.			

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rabbit	6,000 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			

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,600 mg/kg	Literature.
Acute dermal toxicity		rat	> 2,000 mg/kg	OECD N° 423
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity	No data available			

- Cupferron Al

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

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

Specific effects	Affected organs
Based on available data, the classification criteria are not met.	

➢ **Irritant and corrosive effects:**

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin Irritation to eyes	Irritating to skin.			
	Risk of serious damage to eyes.			

➢ **Irritation to the respiratory tract:**

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

➢ **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:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

May be harmful by inhalation, ingestion, skin adsorption.

- N-vinyl caprolactam

For industrial applications, there are no data available.

- Oxybis(methyl-2,1-ethanediyl) diacrylate

No data available

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

No data available

- Isodecyl acrylate

No data available

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

Suspected of damaging fertility or the unborn child.

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

Inhalation of aerosol or skin contact may cause sensitisation of susceptible persons.

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

May cause eye irritation with susceptible persons. May cause irritation of respiratory tract.

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

No data available

- Cupferron Al

No data available

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	6.8 mg/l
	Method: OECD Test Guideline 203			

Toxicity to fish	NOEC	96 h	Brachidanio rerio (zebra fish) Method: OECD Test Guideline 203	2.2 mg/l
Toxicity to fish	LC100	96 h	Brachidanio rerio (zebra fish) Method: OECD Test Guideline 203	10 mg/l
Toxicity to daphnia	EC50	48 h	Daphnia magna Method: OECD Test Guideline 202	55 mg/l
Toxicity to daphnia	EC100	48 h	Daphnia magna Method: OECD Test Guideline 202	100 mg/l
Toxicity to daphnia	NOEC	48 h	Daphnia magna Method: OECD Test Guideline 202	25 mg/l
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae) Method: OECD Test Guideline 201	5 mg/l
Toxicity to algae	NOEC	72 h	scenedesmus subspicatus Method: OECD Test Guideline 201	0.78 mg/l
Toxicity to algae	LOEC	72 h	scenedesmus subspicatus Method: OECD Test Guideline 201	2.7 mg/l
Toxicity to bacteria	IC50	3 h	Method: OECD-Guideline No.209; 88/302/EEC C.11	741 mg/l

- N-vinyl caprolactam

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

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	NOAEL	96 h	Leuciscus idus Method: Static experimental result	1 mg/l
Toxicity to fish	LC50	96 h	Leuciscus idus (golden orfe) Method: Literature. Based on available data, the classification criteria are not met.	2.15 to 4.64 mg/l
Toxicity to algae	EC50	72 h	Algae	< 16.7 mg/l

Toxicity to bacteria	Method: Literature. Based on available data, the classification criteria are not met. No data available

- 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			

- Isodecyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Oncorhynchus mykiss (rainbow trout)	1.81 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	NOEC	96 h	Oncorhynchus mykiss (rainbow trout)	0.381 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	EC50	48 h	Daphnia magna (water flea)	1.3 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	72 h	Desmodesmus subspicatus (algae)	1.71 mg/l
	Method: Literature.			
Toxicity to algae	NOEC	72 h	Desmodesmus subspicatus (algae)	0.45 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	EC50	0.5 h	Pseudomonas putida (bacteria)	> 10,000 mg/l
	Method: Literature.			

- 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			

- Caprolactam

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	48 h	Salmo gairdneri (rainbow trout)	> 500 mg/l
Toxicity to daphnia	EC50	48 h	Daphnia magna (water flea)	> 500 mg/l
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	130 mg/l
Toxicity to bacteria	EC50	17 h	Pseudomonas putida (bacteria)	4,200 mg/l

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	48 h	Oryzias latipes (rice fish)	5.3 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h		0.48 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	96 h	Algae	0.758 mg/l
	Method: Literature.			
Toxicity to bacteria				
	No data available			

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Exposure time	Species	Value
Toxicity to fish		96 h	Pisces (fish)	28.5 mg/l
	Method: Literature.			
Toxicity to fish	LC50	96 h	Pimephales promelas (fathead minnow)	110 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to daphnia				
	No data available			

Toxicity to algae	No data available
Toxicity to bacteria	EC50 0.5 h 4.61 mg/l Method: Literature.

- Cupferron Al

	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			

12.2 Persistence and degradability:

Physico-chemical removability

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.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill.

Empty containers.

Recondition or dispose of empty container in accordance with governmental regulations.

US. RCRA Hazardous Waste Classification (40 CFR 261)

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 14. TRANSPORT INFORMATION

Not regulated according to IMO/IMDG.
Not regulated according to ICAO/IATA aircraft only.
Not regulated according to ICAO/IATA passenger and cargo aircraft.
Not Regulated according to US Department of Transportation (DOT) 49 CFR
Not regulated according to Transport of Dangerous Goods (TDG)

SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substance Control Act (U.S, EPA TSCA) inventory.

US. OSHA Classification

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

US. SARA 311/312 Hazard Categories

Acute (Immediate) Chronic (Delayed)

State Right-to-Know Information

The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5
• 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	128-37-0	>= 0.0 - <= 0.0

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists : See Section 2.

Canadian WHMIS Classification

E : Corrosive Material

Canadian Environmental Protection Act (CEPA)

This product contains the following components listed on the Canadian NDSL list.

- modified polyacrylate

SECTION 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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H361f	Suspected of damaging fertility.
H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

This MSDS is replacing Agfa MSDS number 1532G

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this SDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

ARIGI UV K3 WHITE INK

SUBID:000001014073

Version 1 Print Date 04-20-2017

Revision Date 09-28-2015

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

1.1 Identification of the substance or mixture:

Product name : ARIGI UV K3 WHITE INK
MSDS Number : 000001014073

1.2 Use of the substance/mixture:

Use of the Substance/Preparation : Printer ink

1.3 Company/undertaking identification

Agfa Corporation
611 River Drive
Center 3
Elmwood Park, NJ 07407
U.S.A.

Transport Emergency

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

Non-transportation

Health Emergency Phone : +1 303 6235716
Agfa Information Phone : +1 201 4402500

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS (Globally Harmonized System of Classification and Labelling of Chemicals)	
• Hazard classes	Serious eye irritation
Hazard categories	Category 2
Hazard statements	H319
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
• Hazard classes	Toxic to reproduction
Hazard categories	Category 2
Hazard statements	H361f

2.2 Label elements:

Hazardous components which must be listed on the label :

Symbol(s)

GHS07

GHS08

Signal word	:	WARNING	
Hazard statements	:	H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H319	Causes serious eye irritation.
		H361f	Suspected of damaging fertility.
Precautionary statements: prevention	:	P201	Obtain special instructions before use.
		P202	Do not handle until all safety precautions have been read and understood.
		P264	Wash ... thoroughly after handling.
		P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P272	Contaminated work clothing should not be allowed out of the workplace.
Precautionary statements: response	:	P302+P352	IF ON SKIN: Wash with plenty of water/…
		P332+P313	If skin irritation occurs: Get medical advice/attention.
		P362	Take off contaminated clothing.
		P363	Wash contaminated clothing before reuse.
		P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
		P337+P313	If eye irritation persists: Get medical advice/attention.
		P308+P313	IF exposed or concerned: Get medical advice/attention.
Precautionary statements: storage	:	P405	Store locked up.
Precautionary statements: disposal	:	P501NA	Dispose of contents / container to an approved waste disposal facility.

SECTION 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.

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

- 2-(2-Vinyloxyethoxy) ethyl acrylate — Concentration [%] : 40.00 - 50.00
  CAS-No. : 86273-46-3
  Hazard classes : Acute toxicity Oral, Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 4, Category 1, Category 3
  Hazard statements : H302, H317, H412
- trimethylolpropane triacrylate — Concentration [%] : 1.00 - 5.00
  CAS-No. : 15625-89-5
  Hazard classes : Serious eye irritation, Skin irritation, Skin sensitizer
  Hazard categories : Category 2, Category 2, Category 1
  Hazard statements : H319, H315, H317
- 3-methyl-1,5-pentanediyl diacrylate — Concentration [%] : 10.00 - 20.00
  CAS-No. : 64194-22-5
  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 [%] : 1.00 - 5.00
  CAS-No. : 75980-60-8
  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
- Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate — Concentration [%] : 1.00 - 5.00
  CAS-No. : 84434-11-7
  Hazard classes : Chronic hazards to the aquatic environment, Skin sensitizer
  Hazard categories : Category 2, Category 1
  Hazard statements : H411, H317
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol — Concentration [%] : 1.00 - 5.00
  CAS-No. : 67906-98-3
  Hazard classes : Skin irritation, Serious eye irritation
  Hazard categories : Category 2, Category 2
  Hazard statements : H315, H319
- Hexamethylene diacrylate — Concentration [%] : 0.10 - 0.50
  CAS-No. : 13048-33-4
  Hazard classes : Serious eye irritation, Skin irritation, Skin sensitizer
  Hazard categories : Category 2, Category 2, Category 1

Hazard statements : H319, H315, H317

- Titanium dioxide Concentration [%] : 10.00 - 20.00
  CAS-No. : 13463-67-7
- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether Concentration [%] : 0.01 - 0.05
  CAS-No. : 150-76-5
  Hazard classes : Acute toxicity Oral, Serious eye irritation, Skin sensitizer
  Hazard categories : Category 4, Category 2, Category 1
  Hazard statements : H302, H319, H317
- Cupferron Al Concentration [%] : 0.01 - 0.05
  CAS-No. : 15305-07-4
  Hazard classes : Germ cell mutagenicity
  Hazard categories : Category 2
  Hazard statements : H341
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol Concentration [%] : 0.01 - 0.05
  CAS-No. : 128-37-0
  Hazard classes : Acute hazards to the aquatic environment, Chronic hazards to the aquatic environment
  Hazard categories : Category 1, Category 1
  Hazard statements : H400, H410

Components with a community workplace exposure limit

- Titanium dioxide
- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether
- Cupferron Al
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

M-factor

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol
  Acute hazards to the aquatic environment : 1
  Chronic hazards to the aquatic environment : 1

3.3 Remark:

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

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures:

Eye contact : If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor. In case of irritation from airborne exposure, move to fresh air.

Skin contact : Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation or an allergic skin reaction develops, get medical attention.

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.

SECTION 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	:	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

SECTION 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.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling	:	Prevent product from diffusing.
Hygiene measures	:	Employees should wash their hands and face before eating, drinking, or using tobacco products.Educate and train employees in the safe use and handling of this product.Emergency showers and eye wash stations should be available.
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.

SECTION 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 (US)

- Titanium dioxide CAS-No.: 13463-67-7

Basis	Revision Date	Value	Type
ACGIH	01 2006	10 mg/m3	TWA
OSHA Z1	02 2006	15 mg/m3	PEL
OSHA Z1A	1989	10 mg/m3	TWA
TN OEL	06 2008	10 mg/m3	TWA

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
ACGIH	2004	5 mg/m3	TWA
NIOSH	06 1997	5 mg/m3	REL
TN OEL	06 2008	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
ACGIH	03 2014	1 mg/m3	TWA

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
NIOSH	06 1997	10 mg/m3	REL
ACGIH	01 2005	2 mg/m3	TWA
ACGIH	01 2005	2 mg/m3	TWA
TN OEL	06 2008	10 mg/m3	TWA
US CA OEL	02 2012	10 mg/m3	TWA PEL

Air limit values (CA)

- Titanium dioxide CAS-No.: 13463-67-7

Basis	Revision Date	Value	Type
CAD AB OEL	04 2004	10 mg/m3	TWA
CAD BC OEL	07 2006	10 mg/m3	TWA
CAD BC OEL	07 2006	3 mg/m3	TWA
CAD ON OEL	03 2006	10 mg/m3	TWAEV
OEL (QUE)	12 2008	10 mg/m3	TWA
CAD SK OEL	05 2009	10 mg/m3	8 HR ACL
CAD SK OEL	05 2009	20 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	10 mg/m3	TWA

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
CAD AB OEL	01 1997	5 mg/m3	TWA

CAD BC OEL	01 1997	5 mg/m3	TWA
CAD ON OEL	09 2000	5 mg/m3	TWAEV
OEL (QUE)	12 2008	5 mg/m3	TWA
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
CAD BC OEL	05 2013	1 mg/m3	TWA
CAD MB OEL	03 2014	1 mg/m3	TWA
CAD ON OEL	11 2010	1 mg/m3	TWAEV
CAD SK OEL	05 2009	10 mg/m3	8 HR ACL
CAD SK OEL	05 2009	20 mg/m3	15 MIN ACL

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
CAD AB OEL	10 2003	10 mg/m3	TWA
CAD BC OEL	08 2004	2 mg/m3	TWA
CAD BC OEL	08 2004	2 mg/m3	TWA
OEL (QUE)	12 2008	10 mg/m3	TWA
CAD SK OEL	05 2009	2 mg/m3	8 HR ACL
CAD SK OEL	05 2009	4 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	2 mg/m3	TWA
CAD ON OEL	11 2010	2 mg/m3	TWAEV

Biological limit values (US)

We are not aware of any national exposure limit.

Biological limit values (CA)

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.

8.2 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	:	Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR1910.134 or Canada CSA Standard Z94.4-02.
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 : long sleeved clothing EN13688
Personal protective equipment	:	Observe normal precautions when handling chemicals.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties:

9.1.1 Appearance:

State of matter	:	Liquid
Form	:	Liquid.
Color	:	White.
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	:	1.176	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	:	No data available	
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	:	2.1 g/l VOC content excluding water

SECTION 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 : Avoid contact with strong acids.

10.5 Materials to avoid:

Materials to avoid : No data available

10.6 Hazardous decomposition products:

Hazardous decomposition : No specified dangerous decomposition products are known.

products

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicokinetics, metabolism and distribution:

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,790 mg/kg	OECD Test Guideline 401
Acute oral toxicity	LD50	rat	2,026 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	LC50	rat	5.82 mg/l/ 4 h	OECD Test Guideline 403

- trimethylolpropane triacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	> 3,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD50	rabbit	> 6,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity	LC 50 Vapor	Rat	> 0.55 mg/l/ 6 h	

- 3-methyl-1,5-pentanediyl diacrylate

	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			

- Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	> 5,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD50	rabbit	>= 2,000 mg/kg	Literature.
Acute inhalation toxicity	LC 50	Rat	>= 0.000027 mg/l/ 7 h	
	Vapor			

- 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			

- 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	LCo	rat	> 0.41 mg/l/ 7 h	Literature.

- Titanium dioxide

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	> 5,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	No data available			
Acute inhalation toxicity	LC50	rat	> 6.82 mg/l/ 4 h	Literature.

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,600 mg/kg	Literature.
Acute dermal toxicity		rat	> 2,000 mg/kg	OECD N° 423
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity				

	No data available

- Cupferron Al

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

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rabbit	6,000 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			

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

Specific effects	Affected organs
Based on available data, the classification criteria are not met.	

➢ **Irritant and corrosive effects:**

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

➢ **Irritation to the respiratory tract:**

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

➢ **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):**

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

➢ **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**

Possible risk of impaired fertility.

➢ **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	:	Possible risk of impaired fertility.

Experiences made in practice:

At high concentrations the monomer vapours can cause eye and nose irritation. 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.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	6.8 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	NOEC	96 h	Brachidanio rerio (zebra fish)	2.2 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	LC100	96 h	Brachidanio rerio (zebra fish)	10 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	EC50	48 h	Daphnia magna	55 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	EC100	48 h	Daphnia magna	100 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	NOEC	48 h	Daphnia magna	25 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	5 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	NOEC	72 h	scenedesmus subspicatus	0.78 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	LOEC	72 h	scenedesmus subspicatus	2.7 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	IC50	3 h		741 mg/l
	Method: OECD-Guideline No.209; 88/302/EEC C.11			

- trimethylolpropane triacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC 50	96 h	Leuciscus idus	1.47 mg/l
	Method: Static experimental result			
Toxicity to daphnia	LC 50	48 h		19 mg/l
	Method: Static experimental result			
Toxicity to algae	No data available			
Toxicity to bacteria	No data available			

- 3-methyl-1,5-pentanediyl diacrylate

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

Toxicity to algae	No data available
Toxicity to bacteria	No data available 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.			

- Ethyl phenyl(2,4,6-trimethylbenzoyl)phosphinate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC100	96 h	Brachidanio rerio (zebra fish)	10 mg/l
	Method: Literature.			
Toxicity to fish	LC50	48 h	Orange-red killifish	6.53 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h	Daphnia magna	31.5 mg/l
	Method: Literature.			
Toxicity to algae	No data available			
Toxicity to bacteria	No data available			

- 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			

- 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	EC 50	48 h		2.6 mg/l
	Method: Static experimental result			
Toxicity to daphnia	EC0	24 h	Daphnia magna	1.6 mg/l
	Method: Literature.			
Toxicity to daphnia	EC 50	24 h		6 mg/l
	Method: Static experimental result			
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			

- Titanium dioxide

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Pimephales promelas (fathead minnow)	> 1,000 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to daphnia	EC50	48 h	Daphnia magna	> 1,000 mg/l
	Method: Literature.			
Toxicity to algae		72 h	Selenastrum capricornutum (green algae)	61 mg/l
	Method: Literature.			
Toxicity to bacteria	No data available			

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Exposure time	Species	Value
Toxicity to fish		96 h	Pisces (fish)	28.5 mg/l
	Method: Literature.			
Toxicity to fish	LC50	96 h	Pimephales promelas (fathead minnow)	110 mg/l

	Method: Literature. Based on available data, the classification criteria are not met.			
Toxicity to daphnia	No data available			
Toxicity to algae	No data available			
Toxicity to bacteria	EC50 Method: Literature.	0.5 h		4.61 mg/l

- Cupferron Al

	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			

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50 Method: Literature.	48 h	Oryzias latipes (rice fish)	5.3 mg/l
Toxicity to daphnia	EC50 Method: OECD Test Guideline 202	48 h		0.48 mg/l
Toxicity to algae	EC50 Method: Literature.	96 h	Algae	0.758 mg/l
Toxicity to bacteria	No data available			

12.2 Persistence and degradability:

Physico-chemical removability

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.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

May be discharged to drain if local regulations permit.

SECTION 14. TRANSPORT INFORMATION

Not regulated according to IMO/IMDG.
Not regulated according to ICAO/IATA aircraft only.
Not regulated according to ICAO/IATA passenger and cargo aircraft.
Not Regulated according to US Department of Transportation (DOT) 49 CFR
Not regulated according to Transport of Dangerous Goods (TDG)

SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substance Control Act (U.S, EPA TSCA) inventory.

US. OSHA Classification

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

US. SARA 311/312 Hazard Categories

Acute (Immediate) Chronic (Delayed)

State Right-to-Know Information

The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

	CAS-No.	Concentration [%]		
• Titanium dioxide	13463-67-7	>= 10.0	-	<= 20.0
• Carbon Black (carbon)	1333-86-4	>=		<=

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

	CAS-No.	Concentration [%]		
• Titanium dioxide	13463-67-7	>= 10.0	-	<= 20.0
• 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	128-37-0	>= 0.0	-	<= 0.0
• Carbon Black (carbon)	1333-86-4	>=		<=
• blue organic pigment	147-14-8	>=		<=

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

	CAS-No.	Concentration [%]		
• Titanium dioxide	13463-67-7	>= 10.0	-	<= 20.0
• Carbon Black (carbon)	1333-86-4	>=		<=

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

	CAS-No.	Concentration [%]		
• Titanium dioxide	13463-67-7	>= 10.0	-	<= 20.0
• Carbon Black (carbon)	1333-86-4	>=		<=

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists :
See Section 2.

Canadian WHMIS Classification

D2B : Toxic material causing other toxic effects

Canadian Environmental Protection Act (CEPA)

All components of this product are on the Canadian DSL list.

SECTION 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.
H341	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H361f	Suspected of damaging fertility.
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.

This MSDS is replacing Agfa MSDS number 1535G.000

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this SDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

ARIGI UV K3 MAGENTA INK

SUBID:000001014003

Version 1 Print Date 04-20-2017

Revision Date 09-28-2015

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

1.1 Identification of the substance or mixture:

Product name : ARIGI UV K3 MAGENTA INK
MSDS Number : 000001014003

1.2 Use of the substance/mixture:

Use of the Substance/Preparation : Printer ink

1.3 Company/undertaking identification

Agfa Corporation
611 River Drive
Center 3
Elmwood Park, NJ 07407
U.S.A.

Transport Emergency

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

Non-transportation

Health Emergency Phone : +1 303 6235716
Agfa Information Phone : +1 201 4402500

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS (Globally Harmonized System of Classification and Labelling of Chemicals)	
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
• Hazard classes	Serious eye damage
Hazard categories	Category 1
Hazard statements	H318
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
• Hazard classes	Specific target organ toxicity - repeated exposure
Hazard categories	Category 1
Hazard statements	H372

2.2 Label elements:

Hazardous components which must be listed on the label :

Symbol(s)

GHS05

GHS07

GHS08

Hazard statements	:	H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H318	Causes serious eye damage.
		H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Precautionary statements: prevention	:	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
		P270	Do not eat, drink or smoke when using this product.
		P264	Wash ... thoroughly after handling.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P272	Contaminated work clothing should not be allowed out of the workplace.
Precautionary statements: response	:	P302+P352	IF ON SKIN: Wash with plenty of water/…
		P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
		P362	Take off contaminated clothing.
		P363	Wash contaminated clothing before reuse.
		P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
		P310	Immediately call a POISON CENTER/doctor/…
		P314	Get medical advice/attention if you feel unwell.
Precautionary statements: disposal	:	P501NA	Dispose of contents / container to an approved waste disposal facility.

SECTION 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

- 2-(2-Vinyloxyethoxy) ethyl acrylate — Concentration [%] : 40.00 - 60.00
  CAS-No. : 86273-46-3
  Hazard classes : Acute toxicity Oral, Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 4, Category 1, Category 3
  Hazard statements : H302, H317, H412
- Oxybis(methyl-2,1-ethanediyl) diacrylate — Concentration [%] : 10.00 - 20.00
  CAS-No. : 57472-68-1
  Hazard classes : Skin irritation, Serious eye damage, Skin sensitizer
  Hazard categories : Category 2, Category 1, Category 1
  Hazard statements : H315, H318, H317
- N-vinyl caprolactam — Concentration [%] : 10.00 - 20.00
  CAS-No. : 2235-00-9
  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
- Isodecyl acrylate — Concentration [%] : 1.00 - 5.00
  CAS-No. : 1330-61-6
  Hazard classes : Serious eye irritation, Specific target organ toxicity - single exposure, Skin irritation, Chronic hazards to the aquatic environment
  Hazard categories : Category 2, Category 3, Category 2, Category 2
  Hazard statements : H319, H335, H315, H411
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- — Concentration [%] : 1.00 - 5.00
  CAS-No. : 75980-60-8
  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
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol — Concentration [%] : 1.00 - 5.00
  CAS-No. : 67906-98-3
  Hazard classes : Skin irritation, Serious eye irritation
  Hazard categories : Category 2, Category 2
  Hazard statements : H315, H319
- Caprolactam — Concentration [%] : 0.10 - 0.50
  CAS-No. : 105-60-2
  Hazard classes : Acute toxicity Oral, Acute toxicity Inhalation, Serious eye irritation, Specific target organ toxicity - single exposure Inhalation, Skin irritation
  Hazard categories : Category 4, Category 4, Category 2, Category 3, Category 2
  Hazard statements : H302, H332, H319, H335, H315

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether — Concentration [%] : 0.10 - 0.50
  CAS-No. : 150-76-5
  Hazard classes : Acute toxicity Oral, Serious eye irritation, Skin sensitizer
  Hazard categories : Category 4, Category 2, Category 1
  Hazard statements : H302, H319, H317
- Cupferron Al — Concentration [%] : 0.01 - 0.05
  CAS-No. : 15305-07-4
  Hazard classes : Germ cell mutagenicity
  Hazard categories : Category 2
  Hazard statements : H341
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol — Concentration [%] : 0.01 - 0.05
  CAS-No. : 128-37-0
  Hazard classes : Acute hazards to the aquatic environment, Chronic hazards to the aquatic environment
  Hazard categories : Category 1, Category 1
  Hazard statements : H400, H410

Components with a community workplace exposure limit

- Caprolactam
- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether
- Cupferron Al
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

M-factor

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol
  Acute hazards to the aquatic environment : 1
  Chronic hazards to the aquatic environment : 1

3.3 Remark:

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

SECTION 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	:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur.
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.

SECTION 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	:	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

SECTION 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.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling	:	Prevent product from diffusing.
Hygiene measures	:	Employees should wash their hands and face before eating, drinking, or using tobacco products.Educate and train employees in the safe use and handling of this product.Emergency showers and eye wash stations should be available.
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.

SECTION 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 (US)

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

Basis	Revision Date	Value	Type
OSHA Z1A	1989	1 mg/m3	TWA
OSHA Z1A	1989	20 mg/m3 5 ppm	TWA
OSHA Z1A	1989	40 mg/m3 10 ppm	STEL
OSHA Z1A	1989	3 mg/m3	STEL
ACGIH	01 2005	5 mg/m3	TWA

ACGIH	01 2005	5 mg/m3	TWA
TN OEL	06 2008	20 mg/m3 5 ppm	TWA
TN OEL	06 2008	1 mg/m3	TWA
TN OEL	06 2008	40 mg/m3 10 ppm	STEL
TN OEL	06 2008	3 mg/m3	STEL

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
ACGIH	2004	5 mg/m3	TWA
NIOSH	06 1997	5 mg/m3	REL
TN OEL	06 2008	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
ACGIH	03 2014	1 mg/m3	TWA

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
NIOSH	06 1997	10 mg/m3	REL
ACGIH	01 2005	2 mg/m3	TWA
ACGIH	01 2005	2 mg/m3	TWA
TN OEL	06 2008	10 mg/m3	TWA
US CA OEL	02 2012	10 mg/m3	TWA PEL

Air limit values (CA)

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

Basis	Revision Date	Value	Type
CAD BC OEL	12 2005	1 mg/m3	TWA
CAD BC OEL	12 2005	3 mg/m3	STEL
CAD ON OEL	04 2005	5 mg/m3	TWAEV
OEL (QUE)	12 2008	1 mg/m3	TWA
OEL (QUE)	12 2008	23 mg/m3	TWA
OEL (QUE)	12 2008	46 mg/m3	STEL
OEL (QUE)	12 2008	3 mg/m3	STEL
CAD AB OEL	07 2009	5 mg/m3	TWA

CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	5 mg/m3	TWA

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
CAD AB OEL	01 1997	5 mg/m3	TWA
CAD BC OEL	01 1997	5 mg/m3	TWA
CAD ON OEL	09 2000	5 mg/m3	TWAEV
OEL (QUE)	12 2008	5 mg/m3	TWA
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
CAD BC OEL	05 2013	1 mg/m3	TWA
CAD MB OEL	03 2014	1 mg/m3	TWA
CAD ON OEL	11 2010	1 mg/m3	TWAEV
CAD SK OEL	05 2009	10 mg/m3	8 HR ACL
CAD SK OEL	05 2009	20 mg/m3	15 MIN ACL

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
CAD AB OEL	10 2003	10 mg/m3	TWA
CAD BC OEL	08 2004	2 mg/m3	TWA
CAD BC OEL	08 2004	2 mg/m3	TWA
OEL (QUE)	12 2008	10 mg/m3	TWA
CAD SK OEL	05 2009	2 mg/m3	8 HR ACL
CAD SK OEL	05 2009	4 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	2 mg/m3	TWA
CAD ON OEL	11 2010	2 mg/m3	TWAEV

Biological limit values (US)

We are not aware of any national exposure limit.

Biological limit values (CA)

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.

8.2 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	:	Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR1910.134 or Canada CSA Standard Z94.4-02.
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 : long sleeved clothing EN13688
Personal protective equipment	:	Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties:

9.1.1 Appearance:

State of matter	:	Liquid
Form	:	Liquid.
Color	:	Magenta
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	:	1.052	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	:	No data available	
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)	:	Product is not combustible.	

9.2 Other information:

VOC content	:	2.1 g/l

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicokinetics, metabolism and distribution:

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,790 mg/kg	OECD Test Guideline 401
Acute oral toxicity	LD50	rat	2,026 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	LC50	rat	5.82 mg/l/ 4 h	OECD Test Guideline 403

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	4,600 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD 50	Rabbit	> 2,000 mg/kg	
Acute inhalation toxicity	LC 0 Vapor	Rat	0.41 mg/l/ 7 h	

- 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.			

- Isodecyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	+/- 4,435 mg/kg	
Acute dermal toxicity	LD 50	Rabbit	7,522 mg/kg	
Acute inhalation toxicity	LC 50	Rat	> 1.19 mg/l/ 8 h	
	Vapor			

- 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			

- 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			

- Caprolactam

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,475 mg/kg	Directive 92/32/EEC, Annex V, B.1.
	Harmful by inhalation and if swallowed.			
Acute oral toxicity	LD50	rat	1,876 mg/kg	Directive 92/32/EEC, Annex V, B.1.
	Harmful by inhalation and if swallowed.			
Acute dermal toxicity	LD50	rabbit	1,440 mg/kg	Literature.
	Harmful in contact with skin.			
Acute inhalation toxicity	LC50	rat	8.16 mg/l/ 4 h	OECD Test Guideline 403
	Harmful by inhalation.			

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Species	Value	Method

Acute oral toxicity	LD50	rat	1,600 mg/kg	Literature.
Acute dermal toxicity		rat	> 2,000 mg/kg	OECD N° 423
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity	No data available			

- Cupferron Al

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

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rabbit	6,000 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			

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

Specific effects	Affected organs
Based on available data, the classification criteria are not met.	

➢ **Irritant and corrosive effects:**

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin	Irritating to skin.			
Irritation to eyes	Risk of serious damage to eyes.			

➢ **Irritation to the respiratory tract:**

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

➢ **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:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

May be harmful by inhalation, ingestion, skin adsorption.

- Oxybis(methyl-2,1-ethanediyl) diacrylate

No data available

- N-vinyl caprolactam

For industrial applications, there are no data available.

- Isodecyl acrylate

No data available

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

Suspected of damaging fertility or the unborn child.

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

No data available

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

No data available

- Cupferron Al

No data available

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

May cause eye irritation with susceptible persons. May cause irritation of respiratory tract.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	6.8 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	NOEC	96 h	Brachidanio rerio (zebra fish)	2.2 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	LC100	96 h	Brachidanio rerio (zebra fish)	10 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	EC50	48 h	Daphnia magna	55 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	EC100	48 h	Daphnia magna	100 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	NOEC	48 h	Daphnia magna	25 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	5 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	NOEC	72 h	scenedesmus subspicatus	0.78 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	LOEC	72 h	scenedesmus subspicatus	2.7 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	IC50	3 h		741 mg/l

	Method: OECD-Guideline No.209; 88/302/EEC C.11

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	NOAEL Method: Static experimental result	96 h	Leuciscus idus	1 mg/l
Toxicity to fish	LC50 Method: Literature. Based on available data, the classification criteria are not met.	96 h	Leuciscus idus (golden orfe)	2.15 to 4.64 mg/l
Toxicity to algae	EC50 Method: Literature. Based on available data, the classification criteria are not met.	72 h	Algae	< 16.7 mg/l
Toxicity to bacteria	No data available			

- N-vinyl caprolactam

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

- Isodecyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50 Method: OECD Test Guideline 203	96 h	Oncorhynchus mykiss (rainbow trout)	1.81 mg/l
Toxicity to fish	NOEC Method: OECD Test Guideline 203	96 h	Oncorhynchus mykiss (rainbow trout)	0.381 mg/l
Toxicity to daphnia	EC50 Method: OECD Test Guideline 202	48 h	Daphnia magna (water flea)	1.3 mg/l
Toxicity to algae	EC50	72 h	Desmodesmus subspicatus (algae)	1.71 mg/l

	Method: Literature.			
Toxicity to algae	NOEC	72 h	Desmodesmus subspicatus (algae)	0.45 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	EC50	0.5 h	Pseudomonas putida (bacteria)	> 10,000 mg/l
	Method: Literature.			

- 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.			

- 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			

- Caprolactam

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	48 h	Salmo gairdneri (rainbow trout)	> 500 mg/l
Toxicity to daphnia	EC50	48 h	Daphnia magna (water flea)	> 500 mg/l
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	130 mg/l
Toxicity to bacteria	EC50	17 h	Pseudomonas putida (bacteria)	4,200 mg/l

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Exposure time	Species	Value
Toxicity to fish		96 h	Pisces (fish)	28.5 mg/l
	Method: Literature.			

Toxicity to fish	LC50	96 h	Pimephales promelas (fathead minnow)	110 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to daphnia	No data available			
Toxicity to algae	No data available			
Toxicity to bacteria	EC50	0.5 h		4.61 mg/l
	Method: Literature.			

- Cupferron Al

	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			

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	48 h	Oryzias latipes (rice fish)	5.3 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h		0.48 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	96 h	Algae	0.758 mg/l
	Method: Literature.			
Toxicity to bacteria	No data available			

12.2 Persistence and degradability:

Physico-chemical removability

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.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Recover nonusable free liquid and/or contaminated water, and dispose of in an approved and permitted treatment system. Discharge to sewer may require approval of permitting authority and may require pretreatment.

US. RCRA Hazardous Waste Classification (40 CFR 261)

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 14. TRANSPORT INFORMATION

Not regulated according to IMO/IMDG.
Not regulated according to ICAO/IATA aircraft only.
Not regulated according to ICAO/IATA passenger and cargo aircraft.
Not Regulated according to US Department of Transportation (DOT) 49 CFR
Not regulated according to Transport of Dangerous Goods (TDG)

SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substance Control Act (U.S, EPA TSCA) inventory.

US. OSHA Classification

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

US. SARA 311/312 Hazard Categories

Acute (Immediate) Chronic (Delayed)

State Right-to-Know Information

The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5
• 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	128-37-0	>= 0.0 - <= 0.0

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

	CAS-No.	Concentration [%]
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists :
See Section 2.

Canadian WHMIS Classification

E : Corrosive Material

Canadian Environmental Protection Act (CEPA)

This product contains the following components listed on the Canadian NDSL list. All other components are on the Canandian DSL list.

- modified polyacrylate

SECTION 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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H361f	Suspected of damaging fertility.
H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
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.

This MSDS is replacing Agfa MSDS number 1533G

ARIGI UV K3 MAGENTA INK

SUBID:000001014003

Version 1 Print Date 04-20-2017

Revision Date 09-28-2015

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this SDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

ARIGI UV K3 YELLOW INK

SUBID:000001014004

Version 1 Print Date 04-20-2017

Revision Date 09-28-2015

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

1.1 Identification of the substance or mixture:

Product name : ARIGI UV K3 YELLOW INK
MSDS Number : 000001014004

1.2 Use of the substance/mixture:

Use of the Substance/Preparation : Printer ink

1.3 Company/undertaking identification

Agfa Corporation
611 River Drive
Center 3
Elmwood Park, NJ 07407
U.S.A.

Transport Emergency

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

Non-transportation

Health Emergency Phone : +1 303 6235716
Agfa Information Phone : +1 201 4402500

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS (Globally Harmonized System of Classification and Labelling of Chemicals)	
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
• Hazard classes	Serious eye damage
Hazard categories	Category 1
Hazard statements	H318
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
• Hazard classes	Specific target organ toxicity - repeated exposure
Hazard categories	Category 1
Hazard statements	H372
• Hazard classes	Chronic hazards to the aquatic environment
Hazard categories	Category 3
Hazard statements	H412

2.2 Label elements:

Hazardous components which must be listed on the label :

• CAS-No.	:	57472-68-1	Oxybis(methyl-2,1-ethanediyl) diacrylate
		86273-46-3	2-(2-Vinyloxyethoxy) ethyl acrylate
		2235-00-9	N-vinyl caprolactam
		1330-61-6	Isodecyl acrylate

Symbol(s)

GHS05

GHS07

GHS08

Signal word	:	DANGER	
Hazard statements	:	H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H318	Causes serious eye damage.
		H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
		H412	Harmful 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	:	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
		P310	Immediately call a POISON CENTER/doctor/…
		P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

SECTION 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

- 2-(2-Vinyloxyethoxy) ethyl acrylate — Concentration [%] : 40.00 - 60.00
  CAS-No. : 86273-46-3
  Hazard classes : Acute toxicity Oral, Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 4, Category 1, Category 3
  Hazard statements : H302, H317, H412
- N-vinyl caprolactam — Concentration [%] : 10.00 - 20.00
  CAS-No. : 2235-00-9
  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
- Oxybis(methyl-2,1-ethanediyl) diacrylate — Concentration [%] : 5.00 - 10.00
  CAS-No. : 57472-68-1
  Hazard classes : Skin irritation, Serious eye damage, Skin sensitizer
  Hazard categories : Category 2, Category 1, Category 1
  Hazard statements : H315, H318, H317
- Isodecyl acrylate — Concentration [%] : 5.00 - 10.00
  CAS-No. : 1330-61-6
  Hazard classes : Serious eye irritation, Specific target organ toxicity - single exposure, Skin irritation, Chronic hazards to the aquatic environment
  Hazard categories : Category 2, Category 3, Category 2, Category 2
  Hazard statements : H319, H335, H315, H411
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol — Concentration [%] : 5.00 - 10.00
  CAS-No. : 67906-98-3
  Hazard classes : Skin irritation, Serious eye irritation
  Hazard categories : Category 2, Category 2
  Hazard statements : H315, H319
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- — Concentration [%] : 1.00 - 3.00
  CAS-No. : 75980-60-8
  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 [%] : 1.00 - 5.00
  CAS-No. : 162881-26-7
  Hazard classes : Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 1A, Category 4
  Hazard statements : H317, H413

Components with a community workplace exposure limit

This product does not contain components with a community exposure limit.

3.3 Remark:

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

SECTION 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	:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur.
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.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	:	All extinguishing media are suitable.

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.
Specific hazards during fire fighting	:	Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.
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	:	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.
Special protective equipment for fire-fighters	:	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

SECTION 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.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling	:	Prevent product from diffusing.
Hygiene measures	:	Employees should wash their hands and face before eating, drinking, or using tobacco products.Educate and train employees in the safe use and handling of this product.Emergency showers and eye wash stations should be available.
Hygiene measures	:	Employees should wash their hands and face before eating, drinking, or using tobacco products.Educate and train employees in the safe use and handling of this product.Emergency showers and eye wash stations should be available.
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.

SECTION 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 (US)

We are not aware of any national exposure limit.

Air limit values (CA)

We are not aware of any national exposure limit.

Biological limit values (US)

We are not aware of any national exposure limit.

Biological limit values (CA)

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.

8.2 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	:	Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR1910.134 or Canada CSA Standard Z94.4-02.
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 : long sleeved clothing EN13688
Personal protective equipment	:	Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 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	:	1.043	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	:	No data available	
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:

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicokinetics, metabolism and distribution:

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,790 mg/kg	OECD Test Guideline 401
Acute oral toxicity	LD50	rat	2,026 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	LC50	rat	5.82 mg/l/ 4 h	OECD Test Guideline 403

- 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.			

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	4,600 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD 50	Rabbit	> 2,000 mg/kg	
Acute inhalation toxicity	LC 0	Rat	0.41 mg/l/ 7 h	
	Vapor			

- Isodecyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	+/- 4,435 mg/kg	
Acute dermal toxicity	LD 50	Rabbit	7,522 mg/kg	
Acute inhalation toxicity	LC 50	Rat	> 1.19 mg/l/ 8 h	
	Vapor			

- 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			

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

Specific effects	Affected organs
Based on available data, the classification criteria are not met.	

- **Irritant and corrosive effects:**

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin	Irritating to skin.			
Irritation to eyes	Risk of serious damage to eyes.			

- **Irritation to the respiratory tract:**

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

- **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:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

May be harmful by inhalation, ingestion, skin adsorption.

- N-vinyl caprolactam

For industrial applications, there are no data available.

- Oxybis(methyl-2,1-ethanediyl) diacrylate

No data available

- Isodecyl acrylate

No data available

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

No data available

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

Suspected of damaging fertility or the unborn child.

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

Inhalation of aerosol or skin contact may cause sensitisation of susceptible persons.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	6.8 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	NOEC	96 h	Brachidanio rerio (zebra fish)	2.2 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	LC100	96 h	Brachidanio rerio (zebra fish)	10 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	EC50	48 h	Daphnia magna	55 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	EC100	48 h	Daphnia magna	100 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	NOEC	48 h	Daphnia magna	25 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	5 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	NOEC	72 h	scenedesmus subspicatus	0.78 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	LOEC	72 h	scenedesmus subspicatus	2.7 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	IC50	3 h		741 mg/l
	Method: OECD-Guideline No.209; 88/302/EEC C.11			

- 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.			

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	NOAEL Method: Static experimental result	96 h	Leuciscus idus	1 mg/l
Toxicity to fish	LC50 Method: Literature. Based on available data, the classification criteria are not met.	96 h	Leuciscus idus (golden orfe)	2.15 to 4.64 mg/l
Toxicity to algae	EC50 Method: Literature. Based on available data, the classification criteria are not met.	72 h	Algae	< 16.7 mg/l
Toxicity to bacteria	No data available			

- Isodecyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50 Method: OECD Test Guideline 203	96 h	Oncorhynchus mykiss (rainbow trout)	1.81 mg/l
Toxicity to fish	NOEC Method: OECD Test Guideline 203	96 h	Oncorhynchus mykiss (rainbow trout)	0.381 mg/l
Toxicity to daphnia	EC50 Method: OECD Test Guideline 202	48 h	Daphnia magna (water flea)	1.3 mg/l
Toxicity to algae	EC50 Method: Literature.	72 h	Desmodesmus subspicatus (algae)	1.71 mg/l
Toxicity to algae	NOEC Method: OECD Test Guideline 201	72 h	Desmodesmus subspicatus (algae)	0.45 mg/l
Toxicity to bacteria	EC50 Method: Literature.	0.5 h	Pseudomonas putida (bacteria)	> 10,000 mg/l

- 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			

12.2 Persistence and degradability:

Physico-chemical removability

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.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Recover nonusable free liquid and/or contaminated water, and dispose of in an approved and permitted treatment system. Discharge to sewer may require approval of permitting authority and may require pretreatment.

Empty containers.

Recondition or dispose of empty container in accordance with governmental regulations.

US. RCRA Hazardous Waste Classification (40 CFR 261)

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 14. TRANSPORT INFORMATION

Not regulated according to IMO/IMDG.
Not regulated according to ICAO/IATA aircraft only.
Not regulated according to ICAO/IATA passenger and cargo aircraft.
Not Regulated according to US Department of Transportation (DOT) 49 CFR
Not regulated according to Transport of Dangerous Goods (TDG)

SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)

- 2-(2-Vinyloxyethoxy) ethyl acrylate :
- 2-(2-Vinyloxyethoxy) ethyl acrylate : y
- N-vinyl caprolactam : y
- Oxybis(methyl-2,1-ethanediyl) diacrylate : y
- Isodecyl acrylate : y
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol : y
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- : y
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide : y (positive listing)

State Right-to-Know Information

The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists : See Section 2.

Canadian Environmental Protection Act (CEPA)

- 2-(2-Vinyloxyethoxy) ethyl acrylate : DSL : y
- N-vinyl caprolactam : DSL : y
- Oxybis(methyl-2,1-ethanediyl) diacrylate : DSL : y
- Isodecyl acrylate : DSL : y
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol : DSL : y

• Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	:	DSL : y
• phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	:	DSL : y (positive listing)

SECTION 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.
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 (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

This MSDS is replacing Agfa MSDS number 1176G

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this SDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

ARIGI UV K3 BLACK INK

SUBID:000001014005

Version 1 Print Date 02-17-2017

Revision Date 09-28-2015

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

1.1 Identification of the substance or mixture:

Product name : ARIGI UV K3 BLACK INK
MSDS Number : 000001014005

1.2 Use of the substance/mixture:

Use of the Substance/Preparation : Printer ink

1.3 Company/undertaking identification

Agfa Corporation
611 River Drive
Center 3
Elmwood Park, NJ 07407
U.S.A.

Transport Emergency

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

Non-transportation

Health Emergency Phone : +1 303 6235716
Agfa Information Phone : +1 201 4402500

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS (Globally Harmonized System of Classification and Labelling of Chemicals)	
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
• Hazard classes	Serious eye damage
Hazard categories	Category 1
Hazard statements	H318
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
• Hazard classes	Specific target organ toxicity - repeated exposure
Hazard categories	Category 1
Hazard statements	H372

2.2 Label elements:

Hazardous components which must be listed on the label :

Symbol(s)

GHS05

GHS07

GHS08

Hazard statements	:	H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H318	Causes serious eye damage.
		H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Precautionary statements: prevention	:	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
		P270	Do not eat, drink or smoke when using this product.
		P264	Wash ... thoroughly after handling.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P272	Contaminated work clothing should not be allowed out of the workplace.
Precautionary statements: response	:	P302+P352	IF ON SKIN: Wash with plenty of water/…
		P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
		P362	Take off contaminated clothing.
		P363	Wash contaminated clothing before reuse.
		P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
		P310	Immediately call a POISON CENTER/doctor/…
		P314	Get medical advice/attention if you feel unwell.
Precautionary statements: disposal	:	P501NA	Dispose of contents / container to an approved waste disposal facility.

SECTION 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

- 2-(2-Vinyloxyethoxy) ethyl acrylate — Concentration [%] : 40.00 - 60.00
  CAS-No. : 86273-46-3
  Hazard classes : Acute toxicity Oral, Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 4, Category 1, Category 3
  Hazard statements : H302, H317, H412
- N-vinyl caprolactam — Concentration [%] : 10.00 - 20.00
  CAS-No. : 2235-00-9
  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
- Isodecyl acrylate — Concentration [%] : 5.00 - 10.00
  CAS-No. : 1330-61-6
  Hazard classes : Serious eye irritation, Specific target organ toxicity - single exposure, Skin irritation, Chronic hazards to the aquatic environment
  Hazard categories : Category 2, Category 3, Category 2, Category 2
  Hazard statements : H319, H335, H315, H411
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol — Concentration [%] : 5.00 - 10.00
  CAS-No. : 67906-98-3
  Hazard classes : Skin irritation, Serious eye irritation
  Hazard categories : Category 2, Category 2
  Hazard statements : H315, H319
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- — Concentration [%] : 1.00 - 5.00
  CAS-No. : 75980-60-8
  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 [%] : 1.00 - 5.00
  CAS-No. : 162881-26-7
  Hazard classes : Skin sensitizer, Chronic hazards to the aquatic environment
  Hazard categories : Category 1A, Category 4
  Hazard statements : H317, H413
- Oxybis(methyl-2,1-ethanediyl) diacrylate — Concentration [%] : 1.00 - 5.00
  CAS-No. : 57472-68-1
  Hazard classes : Skin irritation, Serious eye damage, Skin sensitizer
  Hazard categories : Category 2, Category 1, Category 1
  Hazard statements : H315, H318, H317
- Carbon Black (carbon) — Concentration [%] : 1.00 - 5.00
  CAS-No. : 1333-86-4

Hazard classes : Carcinogenicity
Hazard categories : Category 2
Hazard statements : H351

- Caprolactam Concentration [%] : 0.10 - 0.50
  CAS-No. : 105-60-2
  Hazard classes : Acute toxicity Oral, Acute toxicity Inhalation, Serious eye irritation, Specific target organ toxicity - single exposure Inhalation, Skin irritation
  Hazard categories : Category 4, Category 4, Category 2, Category 3, Category 2
  Hazard statements : H302, H332, H319, H335, H315
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol Concentration [%] : 0.10 - 0.50
  CAS-No. : 128-37-0
  Hazard classes : Acute hazards to the aquatic environment, Chronic hazards to the aquatic environment
  Hazard categories : Category 1, Category 1
  Hazard statements : H400, H410
- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether Concentration [%] : 0.01 - 0.05
  CAS-No. : 150-76-5
  Hazard classes : Acute toxicity Oral, Serious eye irritation, Skin sensitizer
  Hazard categories : Category 4, Category 2, Category 1
  Hazard statements : H302, H319, H317
- Cupferron Al Concentration [%] : 0.01 - 0.05
  CAS-No. : 15305-07-4
  Hazard classes : Germ cell mutagenicity
  Hazard categories : Category 2
  Hazard statements : H341

Components with a community workplace exposure limit

- Carbon Black (carbon)
- Caprolactam
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol
- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether
- Cupferron Al

M-factor

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol
  Acute hazards to the aquatic environment : 1
  Chronic hazards to the aquatic environment : 1

3.3 Remark:

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

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures:

Eye contact	:	If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor. In case of irritation from airborne exposure, move to fresh air.
Skin contact	:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
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.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	:	All extinguishing media are suitable.

5.2 Special hazards arising from the substance or mixture:

Specific hazards during fire fighting	:	Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.
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	:	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.

SECTION 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.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling : Prevent product from diffusing.

Hygiene measures : Employees should wash their hands and face before eating, drinking, or using tobacco products.Educate and train employees in the safe use and handling of this product.Emergency showers and eye wash stations should be available.

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.

SECTION 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 (US)

- Carbon Black (carbon) CAS-No.: 1333-86-4

Basis	Revision Date	Value	Type
NIOSH	06 1997	3.5 mg/m3	REL
NIOSH	06 1997	0.1 mg/m3	REL
OSHA Z1	06 1993	3.5 mg/m3	PEL
OSHA Z1A	1989	3.5 mg/m3	TWA
TN OEL	06 2008	3.5 mg/m3	TWA
ACGIH	12 2010	3 mg/m3	TWA

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

Basis	Revision Date	Value	Type
OSHA Z1A	1989	1 mg/m3	TWA
OSHA Z1A	1989	20 mg/m3 5 ppm	TWA
OSHA Z1A	1989	40 mg/m3 10 ppm	STEL
OSHA Z1A	1989	3 mg/m3	STEL
ACGIH	01 2005	5 mg/m3	TWA
ACGIH	01 2005	5 mg/m3	TWA
TN OEL	06 2008	20 mg/m3 5 ppm	TWA
TN OEL	06 2008	1 mg/m3	TWA
TN OEL	06 2008	40 mg/m3 10 ppm	STEL
TN OEL	06 2008	3 mg/m3	STEL

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
NIOSH	06 1997	10 mg/m3	REL
ACGIH	01 2005	2 mg/m3	TWA
ACGIH	01 2005	2 mg/m3	TWA
TN OEL	06 2008	10 mg/m3	TWA
US CA OEL	02 2012	10 mg/m3	TWA PEL

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
ACGIH	2004	5 mg/m3	TWA
NIOSH	06 1997	5 mg/m3	REL
TN OEL	06 2008	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
ACGIH	03 2014	1 mg/m3	TWA

Air limit values (CA)

- Carbon Black (carbon) CAS-No.: 1333-86-4

Basis	Revision Date	Value	Type
CAD AB OEL	01 1997	3.5 mg/m3	TWA
CAD BC OEL	01 1997	3.5 mg/m3	TWA
CAD ON OEL	09 2000	3.5 mg/m3	TWAEV
OEL (QUE)	12 2008	3.5 mg/m3	TWA
CAD SK OEL	05 2009	3.5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	7 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	3 mg/m3	TWA

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

Basis	Revision Date	Value	Type
CAD BC OEL	12 2005	1 mg/m3	TWA
CAD BC OEL	12 2005	3 mg/m3	STEL
CAD ON OEL	04 2005	5 mg/m3	TWAEV
OEL (QUE)	12 2008	1 mg/m3	TWA
OEL (QUE)	12 2008	23 mg/m3	TWA
OEL (QUE)	12 2008	46 mg/m3	STEL
OEL (QUE)	12 2008	3 mg/m3	STEL
CAD AB OEL	07 2009	5 mg/m3	TWA
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	5 mg/m3	TWA

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
CAD AB OEL	10 2003	10 mg/m3	TWA
CAD BC OEL	08 2004	2 mg/m3	TWA

CAD BC OEL	08 2004	2 mg/m3	TWA
OEL (QUE)	12 2008	10 mg/m3	TWA
CAD SK OEL	05 2009	2 mg/m3	8 HR ACL
CAD SK OEL	05 2009	4 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	2 mg/m3	TWA
CAD ON OEL	11 2010	2 mg/m3	TWAEV

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
CAD AB OEL	01 1997	5 mg/m3	TWA
CAD BC OEL	01 1997	5 mg/m3	TWA
CAD ON OEL	09 2000	5 mg/m3	TWAEV
OEL (QUE)	12 2008	5 mg/m3	TWA
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD MB OEL	03 2011	5 mg/m3	TWA

- Cupferron Al CAS-No.: 15305-07-4

Basis	Revision Date	Value	Type
CAD BC OEL	05 2013	1 mg/m3	TWA
CAD MB OEL	03 2014	1 mg/m3	TWA
CAD ON OEL	11 2010	1 mg/m3	TWAEV
CAD SK OEL	05 2009	10 mg/m3	8 HR ACL
CAD SK OEL	05 2009	20 mg/m3	15 MIN ACL

Biological limit values (US)

We are not aware of any national exposure limit.

Biological limit values (CA)

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.

8.2 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	:	Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR1910.134 or Canada CSA Standard Z94.4-02.
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 : long sleeved clothing EN13688
Personal protective equipment	:	Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties:

9.1.1 Appearance:

State of matter	:	Liquid
Form	:	Liquid.
Color	:	Black
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	:	1.041	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	:	No data available	
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	:	2.0 g/l

SECTION 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.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicokinetics, metabolism and distribution:

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,790 mg/kg	OECD Test Guideline 401
Acute oral toxicity	LD50	rat	2,026 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	LC50	rat	5.82 mg/l/ 4 h	OECD Test Guideline 403

- 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.			

- Isodecyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	+/- 4,435 mg/kg	
Acute dermal toxicity	LD 50	Rabbit	7,522 mg/kg	
Acute inhalation toxicity	LC 50 Vapor	Rat	> 1.19 mg/l/ 8 h	

- 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				

Acute inhalation toxicity	No data available 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			

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	4,600 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD 50	Rabbit	> 2,000 mg/kg	
Acute inhalation toxicity	LC 0 Vapor	Rat	0.41 mg/l/ 7 h	

- Caprolactam

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,475 mg/kg	Directive 92/32/EEC, Annex V, B.1.
	Harmful by inhalation and if swallowed.			
Acute oral toxicity	LD50	rat	1,876 mg/kg	Directive 92/32/EEC, Annex V, B.1.
	Harmful by inhalation and if swallowed.			
Acute dermal toxicity	LD50	rabbit	1,440 mg/kg	Literature.
	Harmful in contact with skin.			
Acute inhalation toxicity	LC50	rat	8.16 mg/l/ 4 h	OECD Test Guideline 403
	Harmful by inhalation.			

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rabbit	6,000 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			

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	1,600 mg/kg	Literature.
Acute dermal toxicity		rat	> 2,000 mg/kg	OECD N° 423
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity	No data available			

- Cupferron Al

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

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

Specific effects	Affected organs
Based on available data, the classification criteria are not met.	

➢ **Irritant and corrosive effects:**

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin	Irritating to skin.			
Irritation to eyes				
	Risk of serious damage to eyes.			

➢ **Irritation to the respiratory tract:**

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

➢ **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:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

May be harmful by inhalation, ingestion, skin adsorption.

- N-vinyl caprolactam

For industrial applications, there are no data available.

- Isodecyl acrylate

No data available

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

No data available

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

Suspected of damaging fertility or the unborn child.

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

Inhalation of aerosol or skin contact may cause sensitisation of susceptible persons.

- Oxybis(methyl-2,1-ethanediyl) diacrylate

No data available

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

May cause eye irritation with susceptible persons. May cause irritation of respiratory tract.

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

No data available

- Cupferron Al

No data available

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- 2-(2-Vinyloxyethoxy) ethyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	6.8 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	NOEC	96 h	Brachidanio rerio (zebra fish)	2.2 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	LC100	96 h	Brachidanio rerio (zebra fish)	10 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	EC50	48 h	Daphnia magna	55 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	EC100	48 h	Daphnia magna	100 mg/l
	Method: OECD Test Guideline 202			
Toxicity to daphnia	NOEC	48 h	Daphnia magna	25 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	5 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	NOEC	72 h	scenedesmus subspicatus	0.78 mg/l
	Method: OECD Test Guideline 201			

Toxicity to algae	LOEC	72 h	scenedesmus subspicatus	2.7 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	IC50	3 h		741 mg/l
	Method: OECD-Guideline No.209; 88/302/EEC C.11			

- 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.			

- Isodecyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Oncorhynchus mykiss (rainbow trout)	1.81 mg/l
	Method: OECD Test Guideline 203			
Toxicity to fish	NOEC	96 h	Oncorhynchus mykiss (rainbow trout)	0.381 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	EC50	48 h	Daphnia magna (water flea)	1.3 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	72 h	Desmodesmus subspicatus (algae)	1.71 mg/l
	Method: Literature.			
Toxicity to algae	NOEC	72 h	Desmodesmus subspicatus (algae)	0.45 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	EC50	0.5 h	Pseudomonas putida (bacteria)	> 10,000 mg/l
	Method: Literature.			

- 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			

- Oxybis(methyl-2,1-ethanediyl) diacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	NOAEL	96 h	Leuciscus idus	1 mg/l
	Method: Static experimental result			
Toxicity to fish	LC50	96 h	Leuciscus idus (golden orfe)	2.15 to 4.64 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to algae	EC50	72 h	Algae	< 16.7 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to bacteria	No data available			

- Caprolactam

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	48 h	Salmo gairdneri (rainbow trout)	> 500 mg/l
Toxicity to daphnia	EC50	48 h	Daphnia magna (water flea)	> 500 mg/l
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	130 mg/l
Toxicity to bacteria	EC50	17 h	Pseudomonas putida (bacteria)	4,200 mg/l

- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	48 h	Oryzias latipes (rice fish)	5.3 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h		0.48 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	96 h	Algae	0.758 mg/l
	Method: Literature.			
Toxicity to bacteria				
	No data available			

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

	Effect dose	Exposure time	Species	Value
Toxicity to fish		96 h	Pisces (fish)	28.5 mg/l
	Method: Literature.			
Toxicity to fish	LC50	96 h	Pimephales promelas (fathead minnow)	110 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to daphnia				
	No data available			
Toxicity to algae				
	No data available			
Toxicity to bacteria	EC50	0.5 h		4.61 mg/l
	Method: Literature.			

- Cupferron Al

	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

12.2 Persistence and degradability:

Physico-chemical removability

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.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Discharge to sewer may require approval of permitting authority and may require pretreatment.

Empty containers.

Recondition or dispose of empty container in accordance with governmental regulations.

US. RCRA Hazardous Waste Classification (40 CFR 261)

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 14. TRANSPORT INFORMATION

Not regulated according to IMO/IMDG.
Not regulated according to ICAO/IATA aircraft only.
Not regulated according to ICAO/IATA passenger and cargo aircraft.
Not Regulated according to US Department of Transportation (DOT) 49 CFR
Not regulated according to Transport of Dangerous Goods (TDG)

SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substance Control Act (U.S, EPA TSCA) inventory.

US. OSHA Classification

This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

US. SARA 311/312 Hazard Categories

Acute (Immediate) Chronic (Delayed)

US. California Prop. 65

- Carbon Black (carbon) : Carcinogenic.

State Right-to-Know Information

The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

	CAS-No.	Concentration [%]
• Carbon Black (carbon)	1333-86-4	>= 1.0 - <= 5.0
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

	CAS-No.	Concentration [%]
• Carbon Black (carbon)	1333-86-4	>= 1.0 - <= 5.0
• Caprolactam	105-60-2	>= 0.1 - <= 0.5
• 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	128-37-0	>= 0.1 - <= 0.5

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

	CAS-No.	Concentration [%]
• Carbon Black (carbon)	1333-86-4	>= 1.0 - <= 5.0
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

	CAS-No.	Concentration [%]
• Carbon Black (carbon)	1333-86-4	>= 1.0 - <= 5.0
• Caprolactam	105-60-2	>= 0.1 - <= 0.5

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists : See Section 2.

Canadian WHMIS Classification

E : Corrosive Material

Canadian Environmental Protection Act (CEPA)

This product contains the following components listed on the Canadian NDSL list. All other components are on the Canandian DSL list.

- modified polyacrylate

SECTION 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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H351	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H361f	Suspected of damaging fertility.
H372	Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

This MSDS is replacing Agfa MSDS number 1530G

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this SDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.