

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

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

1.1 Identification of the substance or mixture:

Product name : Lipla EsOne Cyan HD Series Ink
MSDS Number : 000001014466

1.2 Use of the substance/mixture:

Use of the : Printing ink
Substance/Preparation

1.3 Company/undertaking identification

CMYK Engineering
1450 2nd Street, Los Angeles CA 90401

Ph: (424) 296-7227

Transport Emergency

Non-transportation

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

Health Emergency Phone : +1 303 6235716

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS (Globally Harmonized System of Classification and Labelling of Chemicals)	
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
• Hazard classes	Serious eye damage
Hazard categories	Category 1
Hazard statements	H318
• Hazard classes	Specific target organ toxicity - single exposure
Hazard categories	Category 3
Hazard statements	H335
• Hazard classes	Specific target organ toxicity - repeated exposure
Hazard categories	Category 2
Hazard statements	H372
• Hazard classes	Toxic to reproduction
Hazard categories	Category 2

SAFETY DATA SHEET

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Hazard statements	H361
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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.

H335

May cause respiratory irritation.

H336

May cause drowsiness or dizziness.

H361d

Suspected of damaging the unborn child.

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

: P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

P264

Wash ... thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P271

Use only outdoors or in a well-ventilated area.

P272

Contaminated work clothing should not be allowed out of the workplace.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

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/...

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.

P333+P313

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

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312

Call a POISON CENTER/ doctor/.../if you feel unwell.

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Precautionary statements: storage	P314 P308+P313 P403+P233	Get medical advice/attention if you feel unwell. IF exposed or concerned: Get medical advice/attention. Store in a well-ventilated place. Keep container tightly closed.
Precautionary statements: disposal	P405 P501NA	Store locked up. 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

• Oxybis(methyl-2,1-ethanediyl) diacrylate	Concentration [%] :	10.0	-	20.0
CAS-No. : 57472-68-1				
• Isobornyl acrylate	Concentration [%] :	10.0	-	20.0
CAS-No. : 5888-33-5				
• Phenoxyethylacrylate	Concentration [%] :	10.0	-	20.0
CAS-No. : 48145-04-6				
• Tetrahydrofurfuryl acrylate	Concentration [%] :	10.0	-	20.0
CAS-No. : 2399-48-6				
• N-vinyl caprolactam	Concentration [%] :	5.0	-	10.0
CAS-No. : 2235-00-9				
• 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	Concentration [%] :	5.0	-	10.0
CAS-No. : 67906-98-3				
• Isodecyl acrylate	Concentration [%] :	5.0	-	10.0
CAS-No. : 1330-61-6				
• polyalkyleneoxide modified polymethylsiloxane	Concentration [%] :	1.0	-	5.0
CAS-No. : 68938-54-5				
• phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	Concentration [%] :	1.0	-	5.0
CAS-No. : 162881-26-7				
• Hexamethylene diacrylate	Concentration [%] :	1.0	-	5.0
CAS-No. : 13048-33-4				

Components with a community workplace exposure limit

SAFETY DATA SHEET

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Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

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

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. |

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Version 1

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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.

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Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

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 resp. biological occupational exposure limits requiring monitoring:

8.1.1.1 Occupational exposure limits:

Air limit values (US)

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

CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
ACGIH	03 2014	2 mg/m3	TWA
NIOSH	2010	10 mg/m3	REL
OSHA Z1A	1989	10 mg/m3	TWA
TN OEL	06 2008	10 mg/m3	TWA
US CA OEL	09 2013	10 mg/m3	TWA PEL

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
ACGIH	03 2014	5 mg/m3	TWA
NIOSH	2010	5 mg/m3	REL
OSHA Z1A	1989	5 mg/m3	TWA
TN OEL	06 2008	5 mg/m3	TWA
US CA OEL	09 2013	5 mg/m3	TWA PEL

- Cupferron Al

CAS-No.: 15305-07-4

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

- Caprolactam

CAS-No.: 105-60-2

Basis	Revision Date	Value	Type
ACGIH	03 2014	5 mg/m3	TWA
NIOSH	2010	1 mg/m3	REL
NIOSH	2010	3 mg/m3	STEL
NIOSH	2010	1 mg/m3	REL
		0.22 ppm	

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Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

NIOSH	2010	3 mg/m3	STEL
		0.66 ppm	
OSHA Z1A	1989	40 mg/m3	STEL
		10 ppm	
OSHA Z1A	1989	3 mg/m3	STEL
OSHA Z1A	1989	1 mg/m3	TWA
OSHA Z1A	1989	20 mg/m3	TWA
		5 ppm	
TN OEL	06 2008	3 mg/m3	STEL
TN OEL	06 2008	40 mg/m3	STEL
		10 ppm	
TN OEL	06 2008	1 mg/m3	TWA
TN OEL	06 2008	20 mg/m3	TWA
		5 ppm	
US CA OEL	09 2013	20 mg/m3	TWA PEL
		5 ppm	
US CA OEL	09 2013	3 mg/m3	STEL
US CA OEL	09 2013	40 mg/m3	STEL
		10 ppm	
US CA OEL	09 2013	1 mg/m3	TWA PEL

Air limit values (CA)

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

CAS-No.: 128-37-0

Basis	Revision Date	Value	Type
CAD AB OEL	07 2009	10 mg/m3	TWA
CAD BC OEL	05 2013	2 mg/m3	TWA
CAD MB OEL	03 2014	2 mg/m3	TWA
CAD ON OEL	11 2010	2 mg/m3	TWAEV
CAD SK OEL	05 2009	2 mg/m3	8 HR ACL
CAD SK OEL	05 2009	4 mg/m3	15 MIN ACL
OEL (QUE)	11 2011	10 mg/m3	TWA

- mequinol; 4-methoxyphenol; hydroquinone monomethyl ether

CAS-No.: 150-76-5

Basis	Revision Date	Value	Type
CAD AB OEL	07 2009	5 mg/m3	TWA
CAD BC OEL	05 2013	5 mg/m3	TWA
CAD MB OEL	03 2014	5 mg/m3	TWA
CAD ON	11 2010	5 mg/m3	TWAEV

SAFETY DATA SHEET

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Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

OEL			
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
OEL (QUE)	11 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

• Caprolactam

CAS-No.: 105-60-2

Basis	Revision Date	Value	Type
CAD AB OEL	07 2009	5 mg/m3	TWA
CAD BC OEL	05 2013	1 mg/m3	TWA
CAD BC OEL	05 2013	3 mg/m3	STEL
CAD MB OEL	03 2014	5 mg/m3	TWA
CAD ON OEL	11 2010	5 mg/m3	TWAEV
CAD SK OEL	05 2009	5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	10 mg/m3	15 MIN ACL
OEL (QUE)	11 2011	46 mg/m3	STEL
OEL (QUE)	11 2011	3 mg/m3	STEL
OEL (QUE)	11 2011	1 mg/m3	TWA
OEL (QUE)	11 2011	23 mg/m3	TWA

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.

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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

SAFETY DATA SHEET

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Lipla EsOne Cyan HD Series Ink

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Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

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	: 1.055	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	: 175.6 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.
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10.2 Chemical stability:

Stability	: The product is stable under normal conditions of storage and use.
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10.3 Possibility of hazardous reactions:

Hazardous reactions	: The product is stable under normal conditions of storage and use.
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10.4 Conditions to avoid:

Conditions to avoid	: No data available
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10.5 Materials to avoid:

Materials to avoid	: No data available
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SAFETY DATA SHEET

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Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

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

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

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	4,626 mg/kg	Experimental result, Supporting study
Acute dermal toxicity	LD 50	Rabbit	> 2,000 mg/kg	

- Isobornyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	4,350 mg/kg	Experimental result, Key study
Acute dermal toxicity	LD 50	Rabbit	> 3,000 mg/kg	

- Phenoxyethylacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	5,000 mg/kg	Experimental result, Key study

- N-vinyl caprolactam

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	+/- 1,400 mg/kg	Experimental result, Supporting study
Acute dermal toxicity	LD 50	Rat	> 2,000 mg/kg	
Acute inhalation toxicity	LC 50	Rat	> 1.6 mg/l/ 8 h	Vapor Experimental result, Key study

- Isodecyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	+/- 4,435 mg/kg	Read-across from supporting substance (structural analogue or surrogate), Key study

SAFETY DATA SHEET

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Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

Acute dermal toxicity	LD 50	Rabbit	7,522 mg/kg
Acute inhalation toxicity	LC 50	Rat	> 1.19 mg/l/ 8 h
Vapor Read-across from supporting substance (structural analogue or surrogate), Key study			

- polyalkyleneoxide modified polymethylsiloxane

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	2,900 mg/kg	

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

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	> 2,000 mg/kg	
Experimental result, Key study				
Acute dermal toxicity	LD 50	Rat	> 2,000 mg/kg	

- Hexamethylene diacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	> 5,000 mg/kg	
Experimental result, Key study				
Acute dermal toxicity	LD 50	Rabbit	3,650 mg/kg	
Acute inhalation toxicity	LC 0	Rat	0.41 mg/l/ 7 h	
Vapor Experimental result, Key study				

➤ Specific target organ toxicity (STOT):

➤ Irritant and corrosive effects:

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

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin	24 - 72 hrs	Rabbit	Category 2	in vivo
Irritation to eyes	24 - 72 hrs	Rabbit	Category 1	in vivo
OECD GHS				

- Isodecyl acrylate

	Exposure time	Species	Evaluation	Method
Irritation to eyes			Mildly Irritating	

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

	Exposure time	Species	Evaluation	Method
Irritation to eyes	24 - 72 hrs	Rabbit	Not Classified	in vivo
EU				

- Hexamethylene diacrylate

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin Irritation to eyes		Rabbit	Category 2 Irritating	in vivo

➤ Irritation to the respiratory tract:

- Isodecyl acrylate

No data available

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

No data available

- Hexamethylene diacrylate

No data available

➤ Sensitisation:

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

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

Species	Evaluation	Method
	May cause sensitization by skin contact.	

- Hexamethylene diacrylate

Species	Evaluation	Method
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➤ Aspiration hazard:

Sub-acute, sub-chronic and chronic toxicity

➤ Repeated dose toxicity:

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

	Effect dose	Value	Exposure time	Species
Oral			28 - 52 d	Rat
Evaluation: 1 = reliable without restrictions Method: Gavage OralRead-across from supporting substance (structural analogue or surrogate), Key study				

- Isobornyl acrylate

	Effect dose	Value	Exposure time	Species
Inhalation				Rat
Evaluation: 2 = reliable with restrictions Method: Vapor				

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

	InhalationRead-across from supporting substance (structural analogue or surrogate), Key study
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- Phenoxyethylacrylate

	Effect dose	Value	Exposure time	Species
Oral			2 Weeks	Rat
	Evaluation: 1 = reliable without restrictions Method: Gavage OralExperimental result, Supporting study			

- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam

	Effect dose	Value	Exposure time	Species
Inhalation				Rat
	Evaluation: 1 = reliable without restrictions Method: Vapor InhalationExperimental result, Key study			

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

	Effect dose	Value	Exposure time	Species
Inhalation				Rat
	Evaluation: 2 = reliable with restrictions Method: Vapor InhalationRead-across from supporting substance (structural analogue or surrogate), Key study			

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

	Effect dose	Value	Exposure time	Species
Oral				Rat
	OralExperimental result, Key study			

- Hexamethylene diacrylate

	Effect dose	Value	Exposure time	Species
Oral			28 - 52 d	Rat
	Evaluation: 1 = reliable without restrictions Method: Gavage OralExperimental result, Key study			

➤ Specific target organ toxicity (STOT):

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate
- polyalkyleneoxide modified polymethylsiloxane
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
- Hexamethylene diacrylate

➤ **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

- Carcinogenicity

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

No data available

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

No data available

- Hexamethylene diacrylate

No data available

- Mutagenicity

- Isodecyl acrylate

No data available

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

No data available

- Hexamethylene diacrylate

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

- Genetic toxicity in vitro

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate
- polyalkyleneoxide modified polymethylsiloxane
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
- Hexamethylene diacrylate

- Genetic toxicity in vivo

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate
- polyalkyleneoxide modified polymethylsiloxane
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
- Hexamethylene diacrylate

- Teratogenicity

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

No data available

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

No data available

- Hexamethylene diacrylate

Route of exposure	Species	Exposure time
	rat	
	Method: OECD-Guideline No.422	
	No teratogenic effects observed at the doses tested.	

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

- Toxicity to reproduction

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

No data available

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

Route of exposure	Species	Exposure time
	Method: Literature. Based on available data, the classification criteria are not met.	

- Hexamethylene diacrylate

No data available

➤ Summarised evaluation of the CMR properties:

Experiences made in practice:

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

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

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC 50	96 h	Leuciscus idus	2.2 to 4.64 mg/l
Toxicity to daphnia	EC 50	48 h		22.3 mg/l
	Method: Static experimental result			
	Method: Static experimental result			

- Isodecyl acrylate

	Effect dose	Exposure time	Species	Value
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SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

Toxicity to bacteria	EC50 0.5 h	Pseudomonas putida (bacteria)	> 10,000 mg/l
Method: Literature.			

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

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC 50	96 h		> 0.09 mg/l
	experimental result			
Toxicity to daphnia	EC 50	48 h		> 1.175 mg/l
	experimental result			
Toxicity to bacteria	EC50	3 h	Bacteria	> 100 mg/l
Method: OECD-Guideline No.209; 88/302/EEC C.11				

- Hexamethylene diacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC 50	96 h	Leuciscus idus	4.6 to 10 mg/l
	Method: Static experimental result			
Toxicity to daphnia	EC 50	48 h		2.6 mg/l
	Method: Static experimental result			
Toxicity to bacteria	EC50	0.5 h		ca. 270 mg/l
Method: OECD-Guideline No.209; 88/302/EEC C.11				

12.2 Persistence and degradability:

Physico-chemical removability

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

No data available

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

No data available

- Hexamethylene diacrylate

No data available

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

Chemical Oxygen Demand (COD)

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

No data available

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

No data available

- Hexamethylene diacrylate

No data available

Adsorbed organic bound halogens (AOX)

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

Product does not contain any organic halogens.

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

Product does not contain any organic halogens.

- Hexamethylene diacrylate

Product does not contain any organic halogens.

Biodegradation

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

No data available

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

Value	Exposure time	Method	Evaluation
1 %	28 d	OECD 301B	According to the results of tests of biodegradability this product is not readily biodegradable.

- Hexamethylene diacrylate

Value	Exposure time	Method	Evaluation
89 %	14 d	OECD 301D	Readily biodegradable According to the results of tests of biodegradability this product is considered as being readily biodegradable.

Biochemical Oxygen Demand (BOD)

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate

No data available

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

No data available

- Hexamethylene diacrylate

No data available

12.3 Bioaccumulative potential:

Partition coefficient (n-octanol/water)

No data available

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

Bioconcentration factor (BCF)

- Oxybis(methyl-2,1-ethanediyl) diacrylate
- Isobornyl acrylate
- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate
- polyalkyleneoxide modified polymethylsiloxane
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
- Hexamethylene diacrylate

12.4 Mobility in soil:

- Isodecyl acrylate

No information available.

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

No information available.

- Hexamethylene diacrylate

Based on a low adsorption coefficient Koc, a high mobility in soil is assumed.

Henry's constant

- Isodecyl acrylate

Value	Temperature	Method
6.729 MPa	25 °C	No information available.

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

Value	Temperature	Method
		No information available.

- Hexamethylene diacrylate

Value	Temperature	Method
2.075 hPa	25 °C	No information available.

Transport between environmental compartments

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

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

- Phenoxyethylacrylate
- Tetrahydrofurfuryl acrylate
- N-vinyl caprolactam
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- Isodecyl acrylate
- polyalkyleneoxide modified polymethylsiloxane
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
- Hexamethylene diacrylate

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)

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard Rule - 29 CFR 1910.1200 and the Canadian Hazardous Products Act



Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

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) 8(b) inventory.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

- Phenoxyethylacrylate :
 - : De minimis concentration: 1.0 %
 - : Reportable threshold: 25,000 lbs
 - : Reportable threshold: 10,000 lbs

US. EPA CERCLA Hazardous Substances (40 CFR 302)

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

	<u>CAS-No.</u>	<u>Concentration [%]</u>
• Phenoxyethylacrylate	48145-04-6	>= 10.0 - <= 20.0
• Phenoxyethylacrylate	48145-04-6	>= 10.0 - <= 20.0

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

	<u>CAS-No.</u>	<u>Concentration [%]</u>
• Phenoxyethylacrylate	48145-04-6	>= 10.0 - <= 20.0

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

	<u>CAS-No.</u>	<u>Concentration [%]</u>
• Phenoxyethylacrylate	48145-04-6	>= 10.0 - <= 20.0

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

Canadian Environmental Protection Act (CEPA)

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

- Tetrahydrofurfuryl acrylate

SAFETY DATA SHEET

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Lipla EsOne Cyan HD Series Ink

SUBID:000001014466

Version 1

Print Date 05-11-2016

Revision Date 05-11-2016

SECTION 16. OTHER INFORMATION

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

- | | |
|------|---|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H335 | May cause respiratory irritation. |
| H361 | Suspected of damaging fertility or the unborn child (state specific effect if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard). |
| 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). |

This SDS is replacing SDS number 1857C

Section(s) changed compared to the previous issue: 2