LIPLA EsOne Magenta HD Series Ink

SUBID:000001014467

Version 1 Print Date 05-12-2016

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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 : LIPLA EsOne Magenta HD Series Ink
MSDS Number : 000001014467

1.2 Use of the substance/mixture:

Use of the Substance/Preparation :

1.3 Company/undertaking identification

CMYK Engineering
1450 2nd Street, Los Angeles CA 90401

Ph: (424) 296-7227

Transport Emergency

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

Non-transportation

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 1
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	Toxic to reproduction
Hazard categories	Category 2
Hazard statements	H361
• 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

2.2 Label elements:

Hazardous components which must be listed on the label :

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.
		H335	May cause respiratory irritation.
		H336	May cause drowsiness or dizziness.
		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).
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.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P271	Use only outdoors or in a well-ventilated area.
		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.

		P310	Immediately call a POISON CENTER/doctor/…
		P308+P313	IF exposed or concerned: 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.
Precautionary statements: storage	:	P403	Store in a well-ventilated place.
		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 Substance related information:

CAS-No. : 57472-68-1

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

- Isobornyl acrylate — Concentration [%] : 10.0 - 20.0
  CAS-No. : 5888-33-5
- Oxybis(methyl-2,1-ethanediyl) diacrylate — Concentration [%] : 10.0 - 20.0
  CAS-No. : 57472-68-1
- Tetrahydrofurfuryl acrylate — Concentration [%] : 10.0 - 20.0
  CAS-No. : 2399-48-6
- Phenoxyethylacrylate — Concentration [%] : 10.0 - 20.0
  CAS-No. : 48145-04-6
- N-vinyl caprolactam — Concentration [%] : 5.0 - 10.0
  CAS-No. : 2235-00-9
- Isodecyl acrylate — Concentration [%] : 1.0 - 5.0
  CAS-No. : 1330-61-6
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol — Concentration [%] : 1.0 - 5.0
  CAS-No. : 67906-98-3
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide — Concentration [%] : 1.0 - 5.0
  CAS-No. : 162881-26-7
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- — Concentration [%] : 1.0 - 5.0
  CAS-No. : 75980-60-8
- polyalkyleneoxide modified polymethylsiloxane — Concentration [%] : 1.0 - 5.0
  CAS-No. : 68938-54-5

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

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 with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.
Skin contact	:	Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Ingestion	:	Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.
Inhalation	:	Move to fresh air.

4.2 Most important symptoms and effects:

4.3 Indication of immediate medical attention and special treatment needed:

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	:	Use fire-extinguishing media appropriate for surrounding materials.Use fire-extinguishing media appropriate for surrounding materials.
Extinguishing media which must not be used for safety reasons	:	Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture:

Specific hazards during fire fighting	:	During fire, gases hazardous to health may be formed.
Further information	:	No unusual fire or explosion hazards noted.

5.3 Advice for fire-fighters:

Special protective equipment for fire-fighters	:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Personal precautions	:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Additional advice	:	Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

6.2 Environmental precautions:

Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

6.3 Methods and material for containment and cleaning up:

Methods for cleaning up	:	Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.

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	:	Do not get in eyes.Wash hands thoroughly after handling.Do not handle until all safety precautions have been read and understood.Obtain special instructions before use.Use personal protective equipment as required.Avoid contact with skin.Avoid contact with eyes, skin, and clothing.
Hygiene measures	:	Do not get in eyes.Observe good industrial hygiene practices.Do not handle until all safety precautions have been read and understood.Obtain special instructions before use.Wash contaminated clothing before reuse.Avoid contact with skin.Wash hands before breaks and immediately after handling the product.Contaminated work clothing should not be allowed out of the workplace.

7.2 Conditions for safe storage:

Requirements for storage areas and containers : Store locked up.

7.3 Specific end use:

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)

- 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	
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

- 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	Value	Type

	Date		
ACGIH	03 2014	1 mg/m3	TWA

Air limit values (CA)

- 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

- 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 OEL	11 2010	5 mg/m3	TWAEV
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

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:

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:**

➢ **Personal measures to prevent exposure:**

Respiratory protection : Under normal conditions of use, respirator protection is not required. In case of inadequate ventilation, use respiratory protection. If respirators are used, OSHA requires compliance with its respiratory protection program (29 CFR 1910.134).

Hand protection : Protective gloves should be used if there is a risk of direct contact or splash. Chemical resistant gloves required for prolonged or repeated contact. Butyl rubber. Glove thickness: > 0.70 mm Break-through time: > 480 min Risk of splashes: Nitrile rubber. Nitrile

		gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.
Eye protection	:	Safety goggles
Body Protection	:	Wear suitable protective clothing as protection against splashing or contamination.
Personal protective equipment	:	Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If exposure limits have not been established, maintain airborne levels to an acceptable level. 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	
Boiling point/range	:	> 100 °C	
Flash point	:	> 100 °C	
Relative density	:	1.058	Method: Literature.
Partition coefficient (n-octanol/water)	:	No data available	
Viscosity, dynamic	:	No data available	
Lower explosion limit	:	No data available	
Upper explosion limit	:	No data available	
Flammability (solid, gas)	:	Not flammable.	

9.2 Other information:

VOC content	:	127.5 g/l

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:

10.2 Chemical stability:

10.3 Possibility of hazardous reactions:

10.4 Conditions to avoid:

Conditions to avoid : Avoid heat or contamination.

10.5 Materials to avoid:

10.6 Hazardous decomposition products:

Hazardous decomposition products : By heating and fire, harmful vapors/gases may be formed.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicokinetics, metabolism and distribution:

- Isodecyl acrylate

No data available

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

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- 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	

- 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	

- 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			
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			

- 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	

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

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	> 5,000 mg/kg	
	Experimental result, Key study			
Acute dermal toxicity	LD 50	Rat	> 2,000 mg/kg	

- polyalkyleneoxide modified polymethylsiloxane

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

➢ **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		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			

➢ **Irritation to the respiratory tract:**

- Isodecyl acrylate

No data available

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

No data available

➢ **Sensitisation:**

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

Species	Evaluation	Method

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

Species	Evaluation	Method
	May cause sensitization by skin contact.	

➢ **Aspiration hazard:**

Sub-acute, sub-chronic and chronic toxicity

➢ **Repeated dose toxicity:**

- Isobornyl acrylate

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

	Method: Vapor InhalationRead-across from supporting substance (structural analogue or surrogate), Key study

- 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			

- Tetrahydrofurfuryl acrylate
- Phenoxyethylacrylate

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

- N-vinyl caprolactam

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

- 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			

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

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

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

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

- polyalkyleneoxide modified polymethylsiloxane

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

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

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

- **Carcinogenicity**

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

No data available

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

No data available

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
- polyalkyleneoxide modified polymethylsiloxane

- **Mutagenicity**

- Isodecyl acrylate

No data available

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

No data available

- **Genetic toxicity in vitro**

- Isobornyl acrylate

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

- **Genetic toxicity in vivo**

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

- **Teratogenicity**

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

No data available

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

No data available

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

- polyalkyleneoxide modified polymethylsiloxane

- **Toxicity to reproduction**

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

No data available

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

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
- polyalkyleneoxide modified polymethylsiloxane

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

Toxicity to reproduction : Suspected of damaging fertility or the unborn child.

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 Method: Static experimental result	96 h	Leuciscus idus	2.2 to 4.64 mg/l
Toxicity to daphnia	EC 50 Method: Static experimental result	48 h		22.3 mg/l

- Isodecyl acrylate

	Effect dose	Exposure time	Species	Value
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			

12.2 Persistence and degradability:

Physico-chemical removability

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

No data available

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

No data available

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
- polyalkyleneoxide modified polymethylsiloxane

Chemical Oxygen Demand (COD)

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

No data available

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

No data available

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
- polyalkyleneoxide modified polymethylsiloxane

Adsorbed organic bound halogens (AOX)

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

Product does not contain any organic halogens.

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Product does not contain any organic halogens.

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
- polyalkyleneoxide modified polymethylsiloxane

Biodegradation

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

No data available

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

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
- polyalkyleneoxide modified polymethylsiloxane

Biochemical Oxygen Demand (BOD)

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

No data available

- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

No data available

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
- polyalkyleneoxide modified polymethylsiloxane

12.3 Bioaccumulative potential:

Partition coefficient (n-octanol/water)

No data available

Bioconcentration factor (BCF)

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

12.4 Mobility in soil:

- Isodecyl acrylate

No information available.

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

No information available.

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.

Transport between environmental compartments

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

12.5 Results of PBT and vPvB assessment:

Evaluation
Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccummulative) criteria

12.6 Other adverse effects:

Toxic to aquatic life with long lasting effects.

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.

Empty containers.

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

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)

This mixture contains an ingredient which is classified as an US EPA TSCA Low Volume Exemption (LVE). All other ingrediants are either on the TSCA list or exempt from being listed.

US. OSHA Classification

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

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)

	CAS-No.	**Concentration [%]**

• 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)

	CAS-No.	Concentration [%]			
• 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.)

	CAS-No.	Concentration [%]			
• 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 WHMIS Classification

E : Corrosive Material

Canadian Environmental Protection Act (CEPA)

One ingredient is not listed on Canadian DSL or NDSL inventory.

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

- Tetrahydrofurfuryl acrylate

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 1858C