

SAFETY DATA SHEET

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



LIPLA HD BLACK INK

SUBID:000001013265

Version 1

Print Date 03-02-2016

Revision Date 03-02-2016

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

1.1 Identification of the substance or mixture:

Product name : LIPLA HD BLACK INK
MSDS Number : 000001013265

1.2 Use of the substance/mixture:

Use of the : Printer 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	Serious eye damage
Hazard categories	Category 1
Hazard statements	H318
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
• 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

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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

Signal word
Hazard
statements

: DANGER
: H315

Causes skin irritation.

H317
H318
H335
H336
H373

May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause 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).
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).

H361

Precautionary
statements:
prevention

: P264

Wash ... thoroughly after handling.

P280

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

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P272

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

P271

Use only outdoors or in a well-ventilated area.

P260

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

P201

Obtain special instructions before use.

P202

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

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+P

IF IN EYES: Rinse cautiously with water for several minutes.

338

Remove contact lenses, if present and easy to remove.

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Precautionary statements:	:	P310	Continue rinsing.
		P304+P340	Immediately call a POISON CENTER/doctor/...
		P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
		P314	Call a POISON CENTER/ doctor/.../if you feel unwell.
Precautionary statements:	:	P308+P313	Get medical advice/attention if you feel unwell.
		P403+P233	IF exposed or concerned: Get medical advice/attention.
			Store in a well-ventilated place. Keep container tightly closed.
Precautionary statements:	:	P405	Store locked up.
		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

• 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 [%] :	1.0	-	5.0
CAS-No. : 1330-61-6				
• Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	Concentration [%] :	1.0	-	5.0
CAS-No. : 75980-60-8				
• phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	Concentration [%] :	1.0	-	5.0
CAS-No. : 162881-26-7				

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- | | | | | |
|----------------------------|---------------------|-----|---|-----|
| • Hexamethylene diacrylate | Concentration [%] : | 1.0 | - | 5.0 |
| CAS-No. : 13048-33-4 | | | | |
| • Carbon Black (carbon) | Concentration [%] : | 1.0 | - | 5.0 |
| CAS-No. : 1333-86-4 | | | | |

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

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:

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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:

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

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)

- Carbon Black (carbon)

CAS-No.: 1333-86-4

Basis	Revision Date	Value	Type
ACGIH	03 2014	3 mg/m3	TWA
NIOSH	2010	0.1 mg/m3	REL
NIOSH	2010	3.5 mg/m3	REL
OSHA Z1	02 2006	3.5 mg/m3	PEL
OSHA Z1A	1989	3.5 mg/m3	TWA
TN OEL	06 2008	3.5 mg/m3	TWA
US CA OEL	09 2013	3.5 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

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US CA OEL	09 2013	5 mg/m3	TWA PEL
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- 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	07 2009	3.5 mg/m3	TWA
CAD BC OEL	05 2013	3 mg/m3	TWA
CAD MB OEL	03 2014	3 mg/m3	TWA
CAD ON OEL	11 2010	3.5 mg/m3	TWAEV
CAD SK OEL	05 2009	3.5 mg/m3	8 HR ACL
CAD SK OEL	05 2009	7 mg/m3	15 MIN ACL
OEL (QUE)	11 2011	3.5 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	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

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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:

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:

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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	:	1.059	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, kinematic	:	No data available	
Lower explosion limit	:	No data available	
Upper explosion limit	:	No data available	
Evaporation rate	:	No data available	

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Flammability (solid, gas) : Not flammable. Method: Literature.

9.2 Other information:

VOC content : 172.6 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

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

	Effect dose	Species	Value	Method
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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				
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				

- 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	

- 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				

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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			

- Carbon Black (carbon)

	Effect dose	Species	Value	Method
Acute oral toxicity	LD 50	Rat	> 8,000 mg/kg	
Experimental result, Key study				
Acute inhalation toxicity	LC 0	Rat	+/- 4.6 mg/m3/ 4 h	
Dust Experimental result, Weight of Evidence study				

➤ Specific target organ toxicity (STOT):

Specific effects	Affected organs
May cause irritation of respiratory tract.	

➤ 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		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

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

- Carbon Black (carbon)

	Exposure time	Species	Evaluation	Method
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Primary irritation to the skin		Possibly Irritating	
Primary irritation to the skin	Rabbit	Not irritating	in vivo
Irritation to eyes	Rabbit	Not classified as an Irritant	in vivo
	EU		

➤ **Irritation to the respiratory tract:**

May cause irritation of respiratory tract.

➤ **Sensitisation:**

Species	Evaluation	Method
	May cause sensitization by inhalation and skin contact.	

➤ **Aspiration hazard:**

No data available

Sub-acute, sub-chronic and chronic toxicity

➤ **Repeated dose toxicity:**

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

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

No information available.

➤ **CMR effects (carcinogenicity, 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**

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

- **Genetic toxicity in vivo**

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

- **Teratogenicity**

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

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- 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:

- Carbon Black (carbon) bronchitis

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			

- 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
Toxicity to daphnia	EC 50	48 h		> 1.175 mg/l
Toxicity to bacteria	EC50	3 h	Bacteria	> 100 mg/l
	Method: OECD-Guideline No.209; 88/302/EEC C.11			

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- 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			

- Carbon Black (carbon)

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC 50	24 h	Danio rerio	> 58,000 mg/l
Toxicity to daphnia	EC 50	24 h		> 5,600 mg/l
	Method: Static experimental result			

12.2 Persistence and degradability:

Physico-chemical removability

No data available

Chemical Oxygen Demand (COD)

No data available

Adsorbed organic bound halogens (AOX)

Product does not contain any organic halogens.

Biodegradation

- 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

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

SAFETY DATA SHEET

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



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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.

- Carbon Black (carbon)

Biochemical Oxygen Demand (BOD)

No data available

12.3 Bioaccumulative potential:

Partition coefficient (n-octanol/water)

No data available

Bioconcentration factor (BCF)

Bioaccumulation is unlikely.

12.4 Mobility in soil:

No information available.

Henry's constant

Value	Temperature	Method
		No information available.

Transport between environmental compartments

Transport between environmental compartments is not expected.

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:

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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.

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)

This mixture contains an ingredient which is classified as an US EPA TSCA Low Volume Exemption (LVE). All remaining ingredients 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. 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 Health Hazard.

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

SAFETY DATA SHEET

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



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

	<u>CAS-No.</u>	<u>Concentration [%]</u>
• Carbon Black (carbon)	1333-86-4	>= 1.0 - <= 5.0

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
• Carbon Black (carbon)	1333-86-4	>= 1.0 - <= 5.0

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
• Carbon Black (carbon)	1333-86-4	>= 1.0 - <= 5.0

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 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 Canadian DSL list. This mixture contains the ingredient, CAS#221661-30-9, which is classified as a TSCA Low Volume Exemption (LVE), L-07-0194. Volume for Importation and Manufacturing of this ingredient is limited to < 10,000 Kgs/year.

SAFETY DATA SHEET

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



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- 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 MSDS is replacing previous number 1853C

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of CMYK ENGINEERING. The data on this SDS relates only to the specific material designated herein. CMYK ENGINEERING 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.