

# Safety Data Sheets

## SECTION 1: Identification

**Product identifier****Material Name**

Uvink LUS-150 Cyan

**Product Description**

LUS15-C-BA

**Product Use**

INK JET ink

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

Mimaki Engineering Co., Ltd

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**Importer / Distributor Information**

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## SECTION 2: Hazards identification

**Singapore Standard SS 586-2:2014**

Acute Toxicity - Oral - Category 4 (63.04% unknown )

Acute Toxicity - Dermal - Category 4 (74.29% unknown )

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2

Skin Sensitization - Category 1

Specific Target Organ Toxicity - Single Exposure - Category 3

Specific Target Organ Toxicity - Repeated Exposure - Category 1 ( liver , respiratory system )

Hazardous to the Aquatic Environment - Chronic - Category 2

**Label elements****Hazard symbols****Signal word**

Danger

**Hazard statements**

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

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H335 May cause respiratory irritation.

H372 Causes damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

#### Response

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER or doctor if you feel unwell.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash before reuse.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

P391 Collect spillage.

#### Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

#### Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Statement(s) of Unknown Acute Toxicity

Dermal 74.29% of the mixture consists of ingredient(s) of unknown acute toxicity.

Oral 63.04% of the mixture consists of ingredient(s) of unknown acute toxicity.

#### Statement(s) of Unknown Aquatic Toxicity

40.2299% of the mixture consists of ingredient(s) of unknown chronic aquatic toxicity.

#### Other Hazards Which Do Not Result in Classification

None known.

### SECTION 3: Composition / information on ingredients

CAS	Component Name	Percent
66492-51-1	2-Propenoic acid, (5-ethyl-1,3-dioxan-5-yl)methyl ester	10-30
2235-00-9	2H-Azepin-2-one, 1-ethenylhexahydro-	10-30
5888-33-5	Isobornyl acrylate	10-30
48145-04-6	2-Propenoic acid, 2-phenoxyethyl ester	10-30
162881-26-7	Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)-	1-5

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75980-60-8	Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	<3
15625-89-5	Trimethylolpropane triacrylate	<1
42978-66-5	Tripropylene glycol diacrylate	<1
122-99-6	2-Phenoxyethanol	<1

### Impurities and stabilizing additives contributing to the GHS Classification

None

## SECTION 4: First aid measures

### Inhalation

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

### Skin contact

Wash with plenty of soap and water. Take off contaminated clothing and wash before re-use. If skin irritation or rash occurs: Get medical advice/attention.

### Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

### Ingestion

If swallowed, get medical attention.

### Most Important Symptoms/Effects

#### Acute

Harmful if swallowed. Harmful in contact with skin. allergic skin reaction, skin irritation, eye irritation, respiratory tract irritation

#### Delayed

liver damage, respiratory system damage

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

## SECTION 5: Firefighting measures

### Suitable extinguishing media

carbon dioxide, regular dry chemical, water spray, alcohol resistant foam

### Unsuitable Extinguishing Media

Do not scatter spilled material with high-pressure water streams.

### Special Hazards Arising from the Chemical

Combustible liquid and vapor.

### Hazardous combustion products

oxides of carbon, oxides of phosphorus, oxides of nitrogen, oxides of sulfur

### Fire Fighting Measures

Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Avoid inhalation of material or combustion by-products. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

### Special Protective Equipment and Precautions for Firefighters

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Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

Wear personal protective clothing and equipment, see Section 8.

#### Environmental precautions

Avoid release to the environment.

#### Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb spill with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

### SECTION 7: Handling and storage

#### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling.

#### Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Further information on storage conditions: Store and handle in accordance with all current regulations and standards.

Grounding and bonding required. Store in a well-ventilated place. Keep separated from incompatible substances.

#### Incompatible Materials

oxidizing materials, acids, bases

### SECTION 8: Exposure controls/personal protection

#### Exposure Guidelines

#### Component Exposure Limits

Singapore and ACGIH have not developed exposure limits for any of this product's components.

#### Biological limit value

There are no biological limit values for any of this product's components.

#### Engineering controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system.

#### PERSONAL PROTECTIVE EQUIPMENT

#### Eye/face protection

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Protective Clothing

Wear appropriate chemical resistant clothing.

#### Glove Recommendations

Wear appropriate chemical resistant gloves.

#### Respiratory Protection

Consult with a health and safety professional for specific respirators appropriate for your use.

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### SECTION 9: Physical and chemical properties

Appearance	cyan liquid	Physical State	liquid
Odor	chemical odor	Color	cyan
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	111 °C
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not available
Autoignition Temperature	Not self-igniting	Flash Point	>70 °C
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	Not available
Water Solubility	Poorly soluble	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	1.08 g/cm3
Physical Form	liquid	Molecular Weight	Not available

#### Other information

No additional information is available.

### SECTION 10: Stability and reactivity

#### Reactivity

No reactivity hazard is expected.

#### Chemical stability

Stable under normal conditions of use.

#### Possibility of hazardous reactions

Will not polymerize.

#### Conditions to avoid

Avoid flames, sparks, and other sources of ignition. Containers may rupture or explode if exposed to heat. Avoid contact with incompatible materials.

#### Materials to Avoid (Incompatibilities)

oxidizing materials, acids, bases

#### Hazardous decomposition products

oxides of carbon, oxides of phosphorus, oxides of nitrogen, oxides of sulfur

### SECTION 11: Toxicological information

#### Information on Likely Routes of Exposure

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**Inhalation:**

respiratory tract irritation

**Skin contact**

Harmful in contact with skin, skin irritation, allergic skin reaction

**Eye contact**

eye irritation

**Ingestion**

Harmful if swallowed. nausea, vomiting, stomach pain

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**Isobornyl acrylate (5888-33-5)**

Oral LD50 Rat 4890 mg/kg

**2-Propenoic acid, 2-phenoxyethyl ester (48145-04-6)**

Oral LD50 Rat 4660 µL/kg

**Trimethylolpropane triacrylate (15625-89-5)**

Dermal LD50 Rabbit 5000 mg/kg

**Tripropylene glycol diacrylate (42978-66-5)**

Oral LD50 Rat 6200 mg/kg

Dermal LD50 Rabbit &gt;2 g/kg

**2-Phenoxyethanol (122-99-6)**

Oral LD50 Rat 1260 mg/kg

Dermal LD50 Rabbit 5 mL/kg

**Acute Toxicity Estimate**

Dermal	1190.2777 mg/kg
Oral	770.9534 mg/kg

**Immediate Effects**

Harmful if swallowed. Harmful in contact with skin. skin irritation, eye irritation, respiratory tract irritation, allergic skin reaction

**Delayed Effects**

liver damage, respiratory system damage

**Irritation/Corrosivity Data**

skin irritation, eye irritation, respiratory tract irritation

**Respiratory Sensitization**

No information available for the product.

**Dermal Sensitization**

May cause an allergic skin reaction.

**Carcinogenicity****Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

**Mutagenic Data**

No information available for the product.

**Reproductive Effects Data**

No information available for the product.

**Tumorigenic Data**

No information available for the product.

**Specific Target Organ Toxicity - Single Exposure**

respiratory tract irritation

**Specific Target Organ Toxicity - Repeated Exposure**

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liver damage, respiratory tract damage

### Aspiration hazard

No information available for the product.

### Medical Conditions Aggravated by Exposure

No information available for the product.

## SECTION 12: Ecological information

### Ecotoxicity

Toxic to aquatic life with long lasting effects.

### Component Analysis - Aquatic Toxicity

<b>Trippropylene glycol diacrylate</b>	<b>42978-66-5</b>
Algae:	EC50 72 h <i>Desmodesmus subspicatus</i> >28 mg/L IUCLID
Invertebrate:	EC50 48 h <i>Daphnia magna</i> 88.7 mg/L IUCLID
<b>2-Phenoxyethanol</b>	<b>122-99-6</b>
Fish:	LC50 96 h <i>Pimephales promelas</i> 337 - 352 mg/L [flow-through ]; LC50 96 h <i>Pimephales promelas</i> 366 mg/L [static ]
Algae:	EC50 72 h <i>Desmodesmus subspicatus</i> >500 mg/L IUCLID
Invertebrate:	EC50 48 h <i>Daphnia magna</i> >500 mg/L IUCLID

### Persistence

No information available for the product.

### Bioaccumulative potential

No information available for the product.

### Mobility

No information available for the product.

### Other adverse effects

No additional information is available.

## SECTION 13: Disposal considerations

### Disposal Methods

Dispose in accordance with all applicable regulations.

### Component waste information

There is no applicable waste information for this product's components.

### Contaminated packaging disposal

Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### IATA Information:

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , ( Contains:

Trippropylene glycol diacrylate )

Hazard Class: 9

UN#: UN3082

## Safety Data Sheets

Packing Group: III  
Required Label(s): 9  
Special Provision : A197 \*1

### ICAO Information:

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , ( Contains: Tripropylene glycol diacrylate )  
Hazard Class: 9  
UN#: UN3082  
Packing Group: III  
Required Label(s): 9

### IMDG Information:

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , ( Contains: Tripropylene glycol diacrylate )  
Hazard Class: 9  
UN#: UN3082  
Packing Group: III  
Required Label(s): 9  
Special Provision : 2.10.2.7 \*1

### Component Marine Pollutants (IMDG)

Not a marine pollutant.

### International Bulk Chemical Code

This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

<b>2-Phenoxyethanol</b>	<b>122-99-6</b>
IBC Code:	Category Z

### Special precautions

No additional information is available.

\*1 Single or inner packaging less than 5 L (liquid) or 5 kg net (solids) is exempted from Dangerous Goods regulations -- see UN Special Provision.

## SECTION 15: Regulatory information

### Singapore Regulations

#### List of Hazardous Substances

No information was found for the substance(s) on the List of Hazardous Substances.

#### Poisons List

No information was found for the substance(s) on the List of Hazardous Substances.

#### Hazardous Substance Transport Quantities

None of this product's components are on the list.

#### Maritime and Port Authority

This product contains no components identified on Singapore's Maritime and Port Authority - Dangerous Goods.

#### Arms and Explosives Act

None of this product's components are on the list.

#### Schedule of Chemical Weapons

None of this product's components are on the list.

#### Misuse of Drugs Act



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None of this product's components are on the list.

### Petroleum and Flammable Materials

This product contains no components identified on Singapore's Petroleum and Flammable Materials.

### Strategic Goods Control

This product contains no components identified on Singapore's Strategic Goods Control.

### Toxic Industrial Wastes

This product contains no components identified on Singapore's Toxic Industrial Wastes.

### Component Analysis - Inventory

#### 2-Propenoic acid, (5-ethyl-1,3-dioxan-5-yl)methyl ester (66492-51-1)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	No	Yes	No	Yes	No	Yes	Yes	No	Yes

#### 2H-Azepin-2-one, 1-ethenylhexahydro- (2235-00-9)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes

#### Isobornyl acrylate (5888-33-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	Yes

#### 2-Propenoic acid, 2-phenoxyethyl ester (48145-04-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Yes

#### Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)- (162881-26-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	ELN	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes

#### Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide (75980-60-8)

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US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

## Trimethylolpropane triacrylate (15625-89-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

## Tripropylene glycol diacrylate (42978-66-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

## 2-Phenoxyethanol (122-99-6)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

## SECTION 16: Other information

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/

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Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; NDSL – Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); WHMIS - Workplace Hazardous Materials Information System (Canada).

### Other Information

#### Disclaimer:

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.