Safety Data Sheets

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name
Uvink LH-100 White
Product Description
LH100-W-BA / LH100-W-B2 / SPC-0597W / SPC-0659W
Product Use
UV cure ink for ink jet printer
Restrictions on Use
None known.
Manufacturer Information
Mimaki Engineering Co., Ltd
2182-3 Shigeno-otsu, Tomi-shi, Nagano
389-0512 Japan
Telephone number: +81-268-64-2413

Importer / Distributor Information
MIMAKI AUSTRALIA PTY LTD.
Unit 14, 38-46 South Street, Rydalmere, NSW 2116, Australia
Telephone number: + 61-2-8036-4500

Emergency telephone number
+61 2 8014 4558 (within Australia only)
18000 74234 (within Australia only)
+65 3158 1074

Section 2 - HAZARDS IDENTIFICATION

Classified to Globally Harmonised System of Classification and Labelling of Chemicals, Third revised edition, published by the United Nations as modified under Schedule 6 of the Work Health and Safety Regulation.
GHS Classification
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Eye Irritation - Category 1
Skin Sensitization - Category 1A
Carcinogenicity - Category 2
Reproductive Toxicity - Category 1B
Specific Target Organ Toxicity - Repeated Exposure - Category 1 (lungs)
Specific Target Organ Toxicity - Repeated Exposure - Category 2 Dermal (Immune system)
Hazardous to the Aquatic Environment - Acute - Category 1
Hazardous to the Aquatic Environment - Chronic - Category 1
GHS Label Elements
Symbol(s)

Signal Word
Danger
Hazard Statement(s)

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Causes skin irritation.
Causes serious eye damage.
May cause allergic skin reaction.
Suspected of causing cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use Personal Protective equipment as required.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.
Do not eat, drink or smoke when using this product.
Avoid release to the environment.

Response

IF exposed or concerned: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
Collect spillage.

Storage

Store locked up.

Disposal

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

Potential Environmental Effects

Very toxic to aquatic life with long lasting effects.

Other Hazards Which Do Not Result in Classification

None known.

Main Symptoms and Emergency Overview

Causes skin irritation. Causes serious eye damage. May cause allergic skin reaction. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated exposure.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
Proprietary	Acryl acid ester	20-30
13048-33-4	1,6-Hexanediol diacrylate	20-30

3524-68-3	Pentaerythritol triacrylate	20-30
75980-60-8	Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	10-15
13463-67-7	Titanium dioxide	10-15
Proprietary	Additive	0.1-5

Section 4 - FIRST AID MEASURES

Inhalation
Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.
Skin
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. Contaminated clothing should be removed and laundered before reuse.
Eyes
Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Ingestion
If swallowed, get medical attention.
Most Important Symptoms/Effects
Symptoms: Immediate
skin irritation, eye damage, allergic skin reaction
Symptoms: Delayed
allergic skin reaction, cancer, reproductive effects, lung damage, immune system disorders
Indication of any immediate medical attention and special treatment needed
Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media
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
Negligible fire hazard.
Hazardous Combustion Products
Oxides of carbon, oxides of nitrogen, oxides of titanium
Special Protective Equipment and Precautions for Firefighters
Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.
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.
Hazchem/Emergency Action Code
3Z

Section 6 - ACCIDENTAL RELEASE MEASURES

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Personal Precautions, Protective Equipment and Emergency Procedures
Wear personal protective clothing and equipment, see Section 8.
Environmental Precautions
Avoid release to the environment. Collect spillage.
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 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. Do not breathe vapor or mist. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. Wear protective gloves and eye/face protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment.
Conditions for Safe Storage, Including any Incompatibilities
Store locked up.
Store and handle in accordance with all current regulations and standards. Store in a well-ventilated area. Keep container tightly closed. Keep cool. Keep separated from incompatible substances.
Incompatible Materials
acids, bases, oxidizing materials, peroxides, metal oxides

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Titanium dioxide	**13463-67-7**
Safe Work Australia.	10 mg/m3 TWA (containing no asbestos and <1% crystalline silica) inhalable dust
ACGIH:	10 mg/m3 TWA

EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures
There are no biological limit values for any of this product's components.
Engineering Controls
Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.
Individual Protection Measures, such as 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.
Skin Protection
Wear appropriate chemical resistant clothing.
Respiratory Protection
Consult with a health and safety professional for specific respirators appropriate for your use.
Glove Recommendations
Wear appropriate chemical resistant gloves.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white liquid	**Physical State**	liquid
Odor	unique odor	**Color**	white
Odor Threshold	Not available	**pH**	Not available
Melting Point	Not available	**Boiling Point**	Not available
Boiling Point Range	Not available	**Freezing point**	Not available
Evaporation Rate	Not available	**Flammability (solid, gas)**	Not available
Autoignition Temperature	Not available	**Flash Point**	130 °C (266 °F)
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)**	1.19 (25 °C)
Water Solubility	Not available	**Partition coefficient: n-octanol/water**	Not available
Viscosity	22 ±3 mPa/s (25 °C)	**Solubility (Other)**	Not available
Density	Not available	**Physical Form**	liquid
Molecular Weight	Not 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.
Incompatible Materials
acids, bases, oxidizing materials, peroxides, metal oxides
Hazardous decomposition products
Oxides of carbon, oxides of nitrogen, oxides of titanium

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure
Inhalation

irritation, nausea, headache, drowsiness, dizziness, loss of coordination, difficulty breathing, cancer, reproductive effects, lung damage

Skin Contact
allergic reactions, irritation, nausea, headache, drowsiness, dizziness, immune system disorders

Eye Contact
eye damage

Ingestion
irritation, nausea, headache, drowsiness, dizziness, loss of coordination, unconsciousness

Acute and Chronic Toxicity

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:

1,6-Hexanediol diacrylate (13048-33-4)
Oral LD50 Rat 5 g/kg

Pentaerythritol triacrylate (3524-68-3)
Oral LD50 Rat 1350 mg/kg

Titanium dioxide (13463-67-7)
Oral LD50 Rat >10000 mg/kg

Product Toxicity Data

Acute Toxicity Estimate

Oral	> 2000 mg/kg

Immediate Effects
allergic skin reaction, skin irritation, eye damage

Delayed Effects
allergic skin reaction, cancer, reproductive effects, lung damage, immune system disorders

Irritation/Corrosivity Data
skin irritation, eye damage

Respiratory Sensitization
No information available for the product.

Dermal Sensitization
Available data characterizes components of this product as dermal sensitization hazards.

Component Carcinogenicity

Titanium dioxide	**13463-67-7**
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
IARC:	Monograph 93 [2010] ; Monograph 47 [1989] (Group 2B (possibly carcinogenic to humans))
DFG:	Category 3A (could be carcinogenic for man ;inhalable fraction with the exception of ultra small particles)
OSHA:	Present
NIOSH:	potential occupational carcinogen

Germ Cell Mutagenicity
No information available for the product.

Reproductive Toxicity

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Available data characterizes components of this product as reproductive hazards.

Specific Target Organ Toxicity - Single Exposure
No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure
lungs, immune system

Aspiration hazard
Not expected to be an aspiration hazard.

Medical Conditions Aggravated by Exposure
No information available for the product.

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Component Analysis - Aquatic Toxicity
No LOLI ecotoxicity data are available for this product's components

Persistence and Degradability
No information available for the product.

Bioaccumulative Potential
No information available for the product.

Mobility in soil
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. Empty containers may contain product residue.

Section 14 - TRANSPORT INFORMATION

ADG Information:
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Contains: 1,6-Hexanediol diacrylate , Acryl acid ester)
Hazard Class: 9
UN#: UN3082
Packing Group: III
Required Label(s): 9

IATA Information:
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Contains: 1,6-Hexanediol diacrylate , Acryl acid ester)
Hazard Class: 9
UN#: UN3082
Packing Group: III
Required Label(s): 9
Special Provision : A197 *1

ICAO Information:

Safety Data Sheets

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Contains: 1,6-Hexanediol diacrylate , Acryl acid ester)
Hazard Class: 9
UN#: UN3082
Packing Group: III
Required Label(s): 9

IMDG Information:
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Contains: 1,6-Hexanediol diacrylate , Acryl acid ester)
Hazard Class: 9
UN#: UN3082
Packing Group: III
Required Label(s): 9
Special Provision : 2.10.2.7 *1
Component Marine Pollutants (IMDG)
Not regulated as dangerous goods.
This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Titanium dioxide	**13463-67-7**
IBC Code:	Category Z (slurry)

Transportation Special Precautions
No information available for product.
Hazchem/Emergency Action Code
3Z

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

Section 15 - REGULATORY INFORMATION

Australia Regulations
Work Health and Safety Regulations - Prohibited Carcinogens
No component(s) are listed on the Prohibited Carcinogens list.
Work Health and Safety Regulations - Restricted Carcinogens
No component(s) are listed on the Restricted Carcinogens list.
Work Health and Safety Regulations - Restricted Hazardous Chemicals
No component(s) are listed on the Restricted Hazardous Chemicals list:
Australia Work Health and Safety Regulations - Hazardous Chemicals Requiring Health Monitoring
None of this product's components are on the list.
Component Analysis - Inventory
1,6-Hexanediol diacrylate (13048-33-4)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - Annex 1	KR - Annex 2	KR - REACH CCA	CN	NZ	MX	TW

Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

Pentaerythritol triacrylate (3524-68-3)

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

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

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

Titanium dioxide (13463-67-7)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - Annex 1	KR - Annex 2	KR - REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	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; KECI - Korea Existing Chemicals Inventory; KECL – Korea Existing Chemicals List; KR - Korea; LD50/LC50 - Lethal Dose/ 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

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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.