

*****Section 1 - IDENTIFICATION*******Product Identifier: LH-100W****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 InformationMimaki Engineering Co., Ltd
2182-3 Shigeno-otsu, Tomi-shi, Nagano
389-0512 Japan

Telephone number: +81-268-64-2413

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Importer / Distributor InformationMIMAKI SINGAPORE PTE. LTD.
31 Kaki Bukit Road 3 Singapore 417818 TechLink #02-03

Telephone number: +65-6508-2789

*****Section 2 - HAZARDS IDENTIFICATION*******SPRING/SS 586-2:2014**Skin Corrosion / Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 1
Skin sensitizer, Category 1
Carcinogenicity, Category 2
Toxic to reproduction, Category 2
Specific Target Organ Toxicity - Repeated Exposure, Category 1 (lungs)
Specific Target Organ Toxicity - Repeated Exposure, Category 2 (immune system)
Hazardous to the aquatic environment - acute hazard, Category 1
Hazardous to the aquatic environment - chronic hazard, Category 1**LABEL ELEMENTS****Symbol(s)****Signal Word**

DANGER

Hazard Statement(s)**H315** Causes skin irritation.
H318 Causes serious eye damage
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer

Safety Data Sheets

- H361 Suspected of damaging fertility or the unborn child
- H372 Causes damage to lungs through prolonged or repeated exposure.
- H373 May cause damage to immune system through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

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.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P264 Wash thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.

Response

- P308+P313 IF exposed or concerned: Get medical advice/attention.
- 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 and wash before reuse.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P391 Collect spillage.

Storage

- P405 Store locked up.

Disposal

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

Other Hazards Which Do Not Result in Classification

None known.

* * *Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

CAS	Component	Percent
Proprietary	Acryl acid ester	40-60
13048-33-4	1,6-Hexanediol diacrylate	26
75980-60-8	Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	13
13463-67-7	Titanium dioxide	12
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.

Safety Data Sheets

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.

Note to Physicians

Treat symptomatically and supportively.

Symptoms: Immediate

allergic skin reaction, skin irritation, eye damage

Symptoms: Delayed

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

Section 5 - FIRE FIGHTING MEASURES

Flammable Properties

Negligible fire hazard.

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.

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.

Hazardous Combustion Products

Combustion: oxides of carbon, oxides of nitrogen, oxides of titanium

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions

Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions

Avoid release to the environment. Collect spillage.

Methods for Containment

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray.

Cleanup Methods

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 should not be allowed out of the workplace. Avoid release to the environment.

Safety Data Sheets

Conditions for Safe Storage

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Keep separated from incompatible substances.

Incompatibilities: acids, bases, oxidizing materials, peroxides, metal oxides

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION
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Component Exposure Limits

Titanium dioxide (13463-67-7)

Singapore: 10 mg/m³ PEL

ACGIH: 10 mg/m³ TWA

Biological exposure limits

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.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Appearance:	white liquid
Color:	white	Physical Form:	liquid
Odor:	unique odor	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Flash Point:	130 °C
Decomposition Temperature:	Not available	Evaporation Rate:	Not available
LEL:	Not available	UEL:	Not available
Vapor Pressure:	Not available	Vapor Density (air = 1):	Not available
Density:	Not available	Specific Gravity (water = 1):	1.19 (25 °C)
Water Solubility:	Not available	Log KOW:	Not available
Coeff. Water/Oil Dist:	Not available	Auto Ignition Temperature:	Not available
Viscosity:	22±3 mPa/s (25°C)	Volatility:	Not available
Oxidizing Properties:	Not available	Explosive Properties:	Not available
Flammability (solid, gas):	Not applicable		

Safety Data Sheets

Other Property 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)

acids, bases, oxidizing materials, peroxides, metal oxides

Hazardous Decomposition:

Combustion: oxides of carbon, oxides of nitrogen, oxides of titanium

Section 11 - TOXICOLOGICAL INFORMATION

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The component(s) 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

Titanium dioxide (13463-67-7)

Oral LD50 Rat >10000 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 Sensitizer

No information available for the product.

Dermal Sensitizer

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

Carcinogenicity

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

Mutagenic Data

No information available for the product.

Safety Data Sheets

Reproductive Effects Data

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 the component(s) of this product.

Bioaccumulation

No information available for the product.

Bioconcentration

No information available for the product.

Biodegradation

No information available for the product.

Persistence

No information available for the product.

Mobility

No information available for the product.

Other Information

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.

Section 14 - TRANSPORT INFORMATION

IATA Information

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Contains: 1,6-Hexanediol diacrylate, Acryl acid ester)

UN #: UN3082 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

Special Provision : A197 *1

ICAO Information

Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (Contains: 1,6-Hexanediol diacrylate, Acryl acid ester)

UN #: UN3082 **Hazard Class:** 9 **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)

UN #: UN3082 **Hazard Class:** 9 **Packing Group:** III

Required Label(s): 9

Special Provision : 2.10.2.7 *1

Marine Pollutant

Titanium dioxide (13463-67-7)

IBC Code: Category Z (slurry)

*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

Singapore Regulations

Component Analysis

No information was found for the substance(s) in Singapore regulations.

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PHIL	JP	KR	CN	NZ
1,6-Hexanediol diacrylate	13048-33-4	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	75980-60-8	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Titanium dioxide	13463-67-7	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; CAS - Chemical Abstracts Service; CLP - Classification, Labelling and Packaging; EEC - European Economic Community; EIN (EINECS) - European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) - European List of Notified Chemical Substances; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; IBC Code - International Bulk Chemical Code; Kow - Octanol/water partition coefficient; LC50 - Lethal Concentration, 50%; LD50 - Lethal Dose, 50%; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NTP = National Toxicology Program; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - European Rail Transport; STEL - Short-term Exposure Limit; TWA - Time Weighted Average; UEL - Upper Explosive Limit

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.