

Safety Data Sheets

1. Identification

Product Name : UV ink LH-100 Yellow
Order No. : LH100-Y-BA/LH100-Y-B2/SPC-0597Y/SPC-0659Y
General Use : Ink for ink jet printer
Product Description : UV Inkjet Ink
SDS Number : 037-U060490
Manufacture
Company Name : Mimaki Engineering Co., Ltd.
Address : 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN
Telephone No. : +81-268-64-2413
Importer / Distributor Established in USA
Company Name : MIMAKI USA, INC.
Address : 150 Satellite Boulevard, suite A, Suwanee, Georgia 30024, U.S.A.
Telephone No. : +1-678-730-0100
Emergency Telephone No. : +81-268-64-2281

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids : Not classified

Health Hazards

Acute Toxicity – Oral : Category 4 (~40% unknown)
Skin Corrosion / Irritation : Category 2
Eye Damage / Irritation : Category 1
Sensitization – Skin : Category 1
Carcinogenicity : Category 1A
Toxic to Reproduction : Category 2
Specific Target Organ Toxicity : Category 2 (immune system)
(Repeated Exposure)

Environmental Hazards

Hazardous to the Aquatic : Category 1
Environment - Acute Hazard

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Hazardous to the Aquatic : Category 1

Environment - Long Term Hazard

The above list does not include category being non-classifiable or not-applicable.

[GHS Label Elements]

Symbol



Signal Word

Danger

Hazard Statements

H302 Harmful if swallowed

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H318 Causes serious eye damage

H350 May cause cancer

H361 Suspected of damaging fertility or the unborn child

H373 May cause damage to organs through prolonged or repeated exposure (immune system).

H410 Very toxic to aquatic life with long lasting effects

Precautionary Statements

[Prevention]

P201 Obtain SDS (Safety Data Sheet) and printer's Operation Manual before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe gas/mist.

P264 Wash hands thoroughly after handling.

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

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

P273 Avoid release to the environment.

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

[Response]

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

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

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

(P305+)P310 (IF IN EYES:) Immediately call a POISON CENTER or doctor/physician.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

(P301+)P330 IF SWALLOWED: Rinse mouth.

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

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

P391 Collect spillage.

[Storage]

P405 Store locked up.

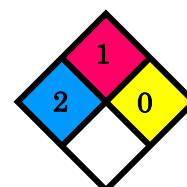
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[Disposal]

P501 Dispose of contents/container in accordance with local/regional/national/international regulation (to be specified).

NFPA Rating (scale 0 – 4)

Health = 2
 Flammability = 1
 Instability = 0
 Special = None



3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Acryl acid ester	40-60	Trade Secret
2	1,6-Hexanediol diacrylate	25-30	13048-33-4
3	Initiator	10-15	Trade Secret
4	Additive	0.1-5	Trade Secret
5	Nickel series pigment	0.1-5	Trade Secret

Component Related Regulatory Information : This product may be regulated, have exposure limits or other information identified as the following: Nickel compounds.

4. First Aid Measures

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

Eye Contact : 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.

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. Contaminated clothing should be removed and laundered before reuse.

Ingestion : If swallowed, get medical attention.

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Most Important Symptoms/Effects

Acute	: skin irritation, eye damage, allergic skin reaction
Delayed	: allergic skin reaction, cancer, reproductive effects, immune system disorders
Indication of Immediate Medical Attention and Special Treatment Needed, If Needed	: Treat symptomatically and supportively.

5. Fire Fighting Measures

Flammable Properties	: Flash point 136°C
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 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.
Special Protective Equipment and Precautions for Firefighters	: Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency	: Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.
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Procedures

Methods and Materials : Eliminate all ignition sources if safe to do so. Stop leak if possible
 for Containment and without personal risk. Reduce vapors with water spray.
 Cleaning Up **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.

7. Handling and Storage

Precautions for Safe : Obtain special instructions before use. Do not handle until all safety
 Handling 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.

Conditions for Safe : Store and handle in accordance with all current regulations and
 Storage, including any standards. Store in a well-ventilated place. Keep container tightly
 Incompatibilities closed. Keep cool. Store locked up. Keep separated from incompatible
 substances.

8. Exposure Controls / Personal Protection

Exposure Limit Values : Nickel series pigment (CAS No. Trade Secret)

NIOSH	0.015 mg/m ³ TWA (except Nickel carbonyl, as Ni, related to Nickel compounds)
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Component Biological : There are no biological limit values for the component(s) of this
 Limit Values product.

Exposure Controls

Occupational Exposure Controls

Appropriate : Provide local exhaust or process enclosure ventilation system. Ensure
 Engineering Controls compliance with applicable exposure limits.

Personal Protection

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



Vapor
Respirator

Hand Protection : Wear appropriate chemical resistant gloves.



Gloves

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



Safety
Glasses

Skin Protection : Wear appropriate chemical resistant clothing.



Protective
Apron

9. Physical and Chemical Properties

Appearance	- Physical State	: Liquid
	- Color	: Yellow
Odor		: Characteristic odor
pH		: Not available
Boiling Point / Boiling Range		: Not available
Melting Point / Melting Range		: Not available
Decomposition Temperature		: Not available
Flash Point		: 136°C
Auto ignition temperature		: Not available
Flammability (Solid, Gas)		: Not available
Explosive Properties		: Not available
Oxidizing Properties		: Not available
Upper / Lower Flammability or Explosive Limits		: Not available
Vapor Pressure		
Specific Gravity		: 1.09 (25°C)

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Solubility	: Not available
Water Solubility	: Not available
Partition Coefficient (n-octanol / Water)	: Not available
Viscosity	: 22 ± 3 mPa · s (25°C)
Vapor Density	: Not available
Evaporation Rate	: Not available
VOC	: Not available

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	: Combustion: oxides of carbon, oxides of nitrogen, oxides of sulfur

11. Toxicological Information

Acute Toxicity	: The component(s) of this material have been reviewed in various
Component Analysis - LD50/LC50	sources and no selected endpoints have been identified.
Information on Likely Routes of Exposure	
Inhalation	: irritation, nausea, headache, drowsiness, dizziness, loss of coordination, difficulty breathing, cancer, reproductive effects,
Ingestion	: irritation, nausea, headache, drowsiness, dizziness, loss of coordination, unconsciousness
Skin Contact	: allergic reactions, irritation, nausea, headache, drowsiness, dizziness
Eye Contact	: eye damage
Immediate Effects	: allergic skin reaction, skin irritation, eye damage
Delayed Effects	: allergic skin reaction, cancer, reproductive effects, lung damage, immune system disorders

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- Medical Conditions : No information available for the product.
- Aggravated by Exposure
- Irritation/Corrosivity : skin irritation, eye damage
- Data
- Respiratory : No information available for the product.
- Sensitization
- Dermal Sensitization : Available data characterizes components of this product as dermal sensitization hazards.
- Germ Cell Mutagenicity : No information available for the product.
- Carcinogenicity : Nickel series pigment (CAS No. Trade Secret)

IARC	Monograph 100C [2012]; Monograph 49 [1990] (evaluated as a group) (Group 1 (carcinogenic to humans), related to Nickel compounds)
NTP	Known Human Carcinogen (related to Nickel compounds)
DFG	Category 3B (could be carcinogenic for man, inhalable fraction)
OSHA	Present

- Reproductive Toxicity : Available data characterizes components of this product as reproductive hazards.
- Specific Target Organ : No target organs identified.
- Toxicity - Single Exposure
- Specific Target Organ : immune system
- Toxicity - Repeated Exposure
- Aspiration Hazard : Not expected to be an aspiration hazard.

12. Ecological Information

Handling is noted because it might influence the environment when leaking and abandoning it.

Especially, note that the product doesn't flow directly to ground, the river, and the drain ditch.

- Ecotoxicity : Very toxic to aquatic life with long lasting effects.
- Component Analysis - : No LOLI ecotoxicity data are available for the component(s) of this

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Aquatic Toxicity	product.
Persistence and Degradability	: Not available
Bioaccumulation	: Not available
Mobility	: Not available
Other Toxicity	: Not available

13. Disposal Considerations

Comply with all USA, national and local regulations.

Do not dump this product into sewers, on the ground or into any body of water.

Disposal Methods	: Dispose in accordance with all applicable regulations.
Component Waste Numbers	: The U.S. EPA has not published waste numbers for this product's components.
Disposal of Contaminated Packaging	: Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

US DOT Information

Shipping Name	: Environmentally hazardous substance, liquid, n.o.s. (Contains: 1,6-Hexanediol diacrylate, Acryl acid ester)
UN Number	: UN3082
Hazardous Class or Division	: 9
Packing Group (PG)	: III
Label(s) Required	: 9

TDG Information

Shipping Name	: Environmentally hazardous substance, liquid, n.o.s. (Contains: 1,6-Hexanediol diacrylate, Acryl acid ester)
UN Number	: UN3082
Hazardous Class or	: 9

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Division

Packing Group (PG) : III

Label(s) Required : 9

Marine Pollutant : No component(s) of this material is specifically listed in the IMDG Code as an identified marine pollutant.

Remarks : Single or inner packaging less than 5 L (liquid) or 5 kg net (solids) is excepted from Dangerous Goods regulations.
 Refer to ICAO/IATAA197, IMDG 2.10.2.7, ADR SP 375.

15. Regulatory Information

U.S. Federal Regulations : This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Nickel series pigment (CAS No. Trade Secret)

SARA 313	0.1 % de minimis concentration (related to Nickel compounds)
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SARA Title III Section 311/312 : Acute Health: Yes
 Chronic Health: Yes
 Fire: No
 Pressure: No
 Reactive: No

U.S. State Regulations : The following components appear on one or more of the following state hazardous substances lists:

Component	CA	MA	MN	NJ	PA
1,6-Hexanediol diacrylate (CAS No. 13048-33-4)	No	No	Yes	No	No
Nickel series pigment (related to Nickel compounds)	Yes	No	No	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Canadian WHMIS Ingredient Disclosure : None of the product component(s) are listed on the Ingredients Disclosure List (IDL).

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List (IDL)

Chemical Inventory : Component Analysis - Inventory

Listings

Component	US	CA	EU	AU	PHIL	JP	KR	CN	NZ
1,6-Hexanediol diacrylate (CAS No. 13048-33-4)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes
Nickel series pigment (CAS No. Trade Secret)	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

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; 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

Other Information

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