

Safety Data Sheets

1. Identification

| | |
|---|--|
| Product Name | : UV ink LH-100 Magenta |
| Order No. | : LH100-M-BA/LH100-M-B2/SPC-0597M/SPC-0659M |
| Ink Ver. | : 1 |
| General Use | : Ink for ink jet printer |
| Product Description | : UV Inkjet Ink |
| SDS Number | : 037-U060489 |
| 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 (~50% unknown)

Skin Corrosion / Irritation : Category 2

Eye Damage / Irritation : Category 1

Sensitization – Skin : Category 1

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

Safety Data Sheets

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

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 re-use.

P391 Collect spillage.

[Storage]

P405 Store locked up.

[Disposal]

Safety Data Sheets

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

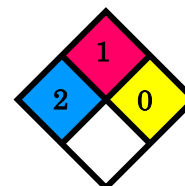
NFPA Rating (scale 0 – 4)

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 | 30-35 | 13048-33-4 |
| 3 | Initiator | 10-15 | Trade Secret |
| 4 | Quinacridone series pigment | 0.1-5 | Trade Secret |
| 5 | Additive | 0.1-5 | Trade Secret |

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. |
| Most Important Symptoms/Effects | |
| Acute | : skin irritation, eye damage, allergic skin reaction |
| Delayed | : allergic skin reaction, reproductive effects, immune system disorders |

Safety Data Sheets

Indication of Immediate : Treat symptomatically and supportively.
 Medical Attention and
 Special Treatment
 Needed, If Needed

5. Fire Fighting Measures

Flammable Properties : Flash point 133°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 Procedures : Wear personal protective clothing and equipment, see Section 8. 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 with sand or other non-combustible material.

Safety Data Sheets

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 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.

Conditions for Safe Storage, including any Incompatibilities : 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.

8. Exposure Controls / Personal Protection

Exposure Limit Values : ACGIH, OSHA, and NIOSH have not developed exposure limits for any of this product's components.

Component Biological Limit Values : There are no biological limit values for the component(s) of this product.

Exposure Controls

Occupational Exposure Controls

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

Personal Protection

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



Safety Data Sheets

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 | : Magenta |
| Odor | | : Characteristic odor |
| pH | | : Not available |
| Boiling Point / Boiling Range | | : Not available |
| Melting Point / Melting Range | | : Not available |
| Decomposition Temperature | | : Not available |
| Flash Point | | : 133°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) |
| 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 |

Safety Data Sheets

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 : Will not polymerize.
Reactions
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 : Combustion: oxides of carbon, oxides of nitrogen, oxides of sulfur
Decomposition

11. Toxicological Information

Acute Toxicity : The component(s) of this material have been reviewed in various
Component Analysis - sources and no selected endpoints have been identified.
LD50/LC50
Information on Likely Routes of Exposure
Inhalation : irritation, nausea, headache, drowsiness, dizziness, loss of coordination, difficulty breathing, 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, reproductive effects, immune system disorders
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

Safety Data Sheets

| | |
|--|--|
| Dermal Sensitization | : Available data characterizes components of this product as dermal sensitization hazards. |
| Germ Cell Mutagenicity | : No information available for the product. |
| Carcinogenicity | : No data listed by ACGIH, IARC, NTP, DFG or OSHA is available for the component(s) of this product. |
| Reproductive Toxicity | : 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 | : Immune system |
| 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 - Aquatic Toxicity | : No LOLI ecotoxicity data are available for the component(s) of this 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. |
|------------------|--|

Safety Data Sheets

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 Division : 9

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/IATA A197, IMDG 2.10.2.7, ADR SP 375.

15. Regulatory Information

U.S. Federal : None of this products components are listed under SARA Sections

Safety Data Sheets

Regulations 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), or require an OSHA process safety plan.

SARA Title III : Acute Health: Yes
 Section 311/312 : 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 |

: Not regulated under California Proposition 65

Canadian WHMIS : None of the product component(s) are listed on the Ingredients
 Ingredient Disclosure Disclosure List (IDL).
 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 |
| Quinacridone series pigment | Yes | DSL | EIN | Yes | Yes | Yes | Yes | Yes | Yes |

Safety Data Sheets

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

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.

It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.

Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.