

# Safety Data Sheets

## 1. Identification

|   |   |
|---|---|
| Product Name                              | : UV ink LH-100 Black   |
| Order No.                                 | : LH100-K-BA/LH100-K-B2/SPC-0597K/SPC-0659K                                 |
| Ink Ver.                                  | : 1   |
| General Use                               | : Ink for ink jet printer   |
| Product Description                       | : UV Inkjet Ink   |
| SDS Number                                | : 037-U060488   |
| 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                                   | : 4851 Thurmon Tanner Parkway, STE 100 Flowery Branch, GA<br>30542, U.S.A.  |
| Telephone No.                             | : +1-678-730-0170   |
| Emergency Telephone No.                   | : +1 866 928 0789 (within United States only, Toll free)<br>+1 215 207 0061 |

## 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 2

Toxic to Reproduction : Category 1B

Specific Target Organ Toxicity : Category 1 (lungs)

(Repeated Exposure) Category 2 (immune system)

#### Environmental Hazards

## Safety Data Sheets

Hazardous to the Aquatic : Category 1

Environment - Acute Hazard

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

H351 Suspected of causing cancer

H360 May damage fertility or the unborn child

H372 Causes damage to organs through prolonged or repeated exposure (lungs).

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.

(P301+)P330 (IF SWALLOWED): Rinse mouth.

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.

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

## Safety Data Sheets

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

P391 Collect spillage.

[Storage]

P405 Store locked up.

[Disposal]

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

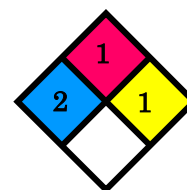
NFPA Rating (scale 0 – 4)

Health = 2

Flammability = 1

Instability = 0

Special = None



### 3. Composition / Information on Ingredients

| No | Chemical Name  | Wt%   | CAS No.      |
|----|--|-------|--------------|
| 1  | Acryl acid ester   | 30-50 | Trade Secret |
| 2  | 1,6-Hexanediol diacrylate                                | 25-30 | 13048-33-4   |
| 3  | 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one | 5-15  | 71868-10-5   |
| 4  | pentaerythritol triacrylate                              | 3-8   | 3524-68-3    |
| 5  | 1,1,1-trimethylolpropane triacrylate                     | 3-8   | 15625-89-5   |
| 6  | Initiator  | 1-10  | Trade Secret |
| 7  | Additive   | 0.1-5 | Trade Secret |
| 8  | Carbon black   | 0.1-5 | 1333-86-4    |

### 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. |

## Safety Data Sheets

|   |   |
|---|---|
| Ingestion   | : If swallowed, get medical attention.  |
| Most Important Symptoms/Effects   |   |
| Acute   | : skin irritation, eye damage, allergic skin reaction                           |
| Delayed   | : allergic skin reaction, reproductive effects, cancer, immune system disorders |
| Indication of Immediate Medical Attention and Special Treatment Needed, If Needed | : Treat symptomatically and supportively.                                       |

### 5. Fire Fighting Measures

|   |  |
|---|--|
|   | : 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.<br>Avoid release to the environment. |
|--|--|

## Safety Data Sheets

Procedures

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.

### 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 : Carbon black(CAS No. 1333-86-4)

|        |   |
|--------|---|
| ACGIH  | 3 mg/m <sup>3</sup> TWA (inhalable fraction)  |
| OSHA   | 3.5 mg/m <sup>3</sup> TWA   |
| NIOSH  | 3.5 mg/m <sup>3</sup> TWA; 0.1 mg/m <sup>3</sup> TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH) |
| Mexico | 3.5 mg/m <sup>3</sup> TWA LMPE-PPT<br>7 mg/m <sup>3</sup> STEL [LMPE-CT]  |

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

# Safety Data Sheets

## Exposure Controls

### Occupational Exposure Controls

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

### Engineering Controls

### Personal Protection

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



Hand Protection : Wear appropriate chemical resistant 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.



### Safet

Skin Protection : Wear appropriate chemical resistant clothing.



## 9. Physical and Chemical Properties

|                               |                  |                       |
|-------------------------------|------------------|-----------------------|
| Appearance                    | - Physical State | : Liquid              |
|                               | - Color          | : Black               |
| 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       |

## Safety Data Sheets

|  |                         |
|--|-------------------------|
| Oxidizing Properties                           | : Not available         |
| Upper / Lower Flammability or Explosive Limits | : Not available         |
| Vapor Pressure                                 |                         |
| Specific Gravity                               | : 1.11 (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         |
| 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 sources and no selected endpoints have been identified.                    |
| Component Analysis - LD50/LC50           |  |
| Information on Likely Routes of Exposure |  |
| Inhalation                               | : irritation, nausea, headache, drowsiness, dizziness, loss of coordination, difficulty breathing, cancer, reproductive effects, lung damage |
| Ingestion                                | : irritation, nausea, headache, drowsiness, dizziness, loss of   |

# Safety Data Sheets

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

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 : Trimethylolpropane triacrylate(CAS No. 15625-89-5)

|      |   |
|------|---|
| IARC | Monograph 122 [2019](technical grade)<br>(Group 2B (possibly carcinogenic to humans)) |
| OSHA | Hazard Communication Carcinogens: Present   |

Carbon black (CAS No. 1333-86-4)

|       |  |
|-------|--|
| ACGIH | A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans                        |
| IARC  | Monograph 93 [2010]; Monograph 65 [1996]<br>(Group 2B (possibly carcinogenic to humans)) |
| 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 : lungs, immune system

Toxicity - Repeated

Exposure

Aspiration Hazard : Not expected to be an aspiration hazard.

## Safety Data Sheets

### 12. Ecological Information

|                                       |  |
|---------------------------------------|--|
|                                       | Handling is noted because it might influence the environment when leaking and abandoning it.<br>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.<br><u>Do not dump this product into sewers, on the ground or into any body of water.</u> |
| 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.<br>Perform prevention of collapse of cargo surely.                  |
| US DOT Information |  |
| Shipping Name      | : Environmentally hazardous substance, liquid, n.o.s.<br>(Contains: 1,6-Hexanediol diacrylate, Acryl acid ester) |
| UN Number          | : UN3082   |

## Safety Data Sheets

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 : YES (Product)  
 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 : None of this products components are listed 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), or require an OSHA process safety plan.

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<br>(CAS No. 13048-33-4) | No  | No  | Yes | No  | No  |
| Carbon black<br>(CAS No. 1333-86-4)               | Yes | Yes | Yes | Yes | Yes |

## Safety Data Sheets

California Proposition 65

: **WARNING**



This product can expose you to chemicals including Trimethylolpropane triacrylate, Benzene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[j]fluoranthene, Benzo[k]fluoranthene, Carbon black, Chrysene, Dibenz[a,h]anthracene, Naphthalene, Toluene, Methyl Acrylate which are known to the State of California to cause cancer/ birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Canadian WHMIS  
 Ingredient Disclosure  
 List (IDL)

: Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which fall under WHMIS criteria specified in the Controlled Products Regulations and present above the threshold limits listed on the IDL.

Carbon black(CAS No.1333-86-4) : 1%

Chemical Inventory  
 Listings

: Component Analysis - Inventory

| Component   | US  | CA  | EU  | AU  | PHIL | JP  | KR  | CN  | NZ  |
|---|-----|-----|-----|-----|------|-----|-----|-----|-----|
| 1,6-Hexanediol diacrylate<br>(CAS No. 13048-33-4) | Yes | DSL | EIN | Yes | Yes  | Yes | Yes | Yes | Yes |
| Carbon black<br>(CAS No.1333-86-4)                | 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 -



Product Name: UV ink LH-100 Black  
SDS No. 037-U060488  
First issue: 2012/12/03  
Revised: 2025/04/07

## Safety Data Sheets

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.