

Safety Data Sheets

1. Identification

Product Name : UV ink LH-100 Cyan
Order No. : LH100-C-BA/LH100-C-B2/SPC-0597C/SPC-0659C
Ink Ver. : 1
General Use : Ink for ink jet printer
Product Description : UV Inkjet Ink
SDS Number : 037-U060487
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. : +1-678-730-0170
Emergency Telephone No. : +1 866 928 0789 (within United States only, Toll free)
+1 215 207 0061

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
Carcinogenicity : Category 2
Toxic to Reproduction : Category 1B
Specific Target Organ Toxicity : Category 2 (immune system)
(Repeated Exposure)

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

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.

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

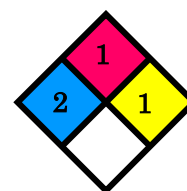
Safety Data Sheets

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 | Phthalocyanine series pigment | 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

Safety Data Sheets

| | |
|---|---|
| | 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, cancer, 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 130°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 | : Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment. |
|--|--|

Safety Data Sheets

and Emergency

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

: 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

Personal Protection

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

Safety Data Sheets

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



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 | : Cyan |
| Odor | | : Characteristic odor |
| pH | | : Not available |
| Boiling Point / Boiling Range | | : Not available |
| Melting Point / Melting Range | | : Not available |
| Decomposition Temperature | | : Not available |
| Flash Point | | : 130°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 | | : 1.10 (25°C) |

Safety Data Sheets

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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 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, reproductive effects, cancer |
| 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, cancer, immune system disorders |

Safety Data Sheets

| | | | | | |
|------------------------|--|------|---|------|---|
| 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) | | | | |
| | <table border="1"> <tr> <td>IARC</td> <td>Monograph 122 [2019](technical grade) (Group 2B (possibly carcinogenic to humans))</td> </tr> <tr> <td>OSHA</td> <td>Hazard Communication Carcinogens: Present</td> </tr> </table> | IARC | Monograph 122 [2019](technical grade) (Group 2B (possibly carcinogenic to humans)) | OSHA | Hazard Communication Carcinogens: Present |
| IARC | Monograph 122 [2019](technical grade) (Group 2B (possibly carcinogenic to humans)) | | | | |
| OSHA | Hazard Communication Carcinogens: 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.

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|----------------------|---|
| Ecotoxicity | : Very toxic to aquatic life with long lasting effects. |
| Component Analysis - | : No LOLI ecotoxicity data are available for the component(s) of this |
| Aquatic Toxicity | product. |
| Persistence and | : Not available |
| Degradability | |
| Bioaccumulation | : Not available |
| Mobility | : Not available |

Safety Data Sheets

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 Division : 9
Packing Group (PG) : III
Label(s) Required : 9
Marine Pollutant : YES (Product)

Safety Data Sheets

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 : 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 |

California Proposition 65 : **WARNING**



This product can expose you to chemicals including Trimethylolpropane triacrylate, Toluene and 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.

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 |
| Phthalocyanine series | Yes | DSL | EIN | Yes | Yes | Yes | Yes | Yes | Yes |



Safety Data Sheets

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| pigment | | | | | | | | | |
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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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