

Material Safety Data Sheets

1. Product and Company Identification

Product Name : UV ink LH-100 Cyan
Product Code : SPC-0597C / SPC-0659C
General Use : Inkjet Ink
Product Description : UV Inkjet Ink
MSDS Number : 031-35U06CC
Manufacture
Company Name : MIMAKI ENGINEERING Co., Ltd
Address : 2182-3 Otsu, Shigeno, 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. : +81-268-64-2413

2. Hazards Identification

Emergency Overview : Harmful if swallowed.
May be harmful in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause respiratory irritation.
May cause harm to breast-fed children.
Toxic to aquatic life.

Potential Health Effects

Inhalation : Respiratory Tract Irritation
Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Eye Contact : Serious Eye Irritation
Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

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Skin Contact : Skin Irritation
 Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.
 : Allergic Skin Reaction (non-photo induced)
 Signs/symptoms may include redness, swelling, blistering, and itching.

Ingestion : Gastrointestinal Irritation
 Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Medical Conditions : Contains a chemical or chemicals which can cause harm to breast-fed children.

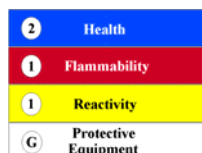
HMIS Rating (scale 0 – 4)

Health = 2

Flammability= 1

Reactivity = 1

Protective Equipment = G



NFPA Rating (scale 0 – 4)

Health: 2

Flammability: 1

Instability: 2

Special: None



3. Composition / Information On Ingredients

| No | Chemical Name | Wt% | CAS No. | Chemical Formula |
|----|-------------------------|-------|--------------|------------------|
| 1 | Acrylic ester | 75-90 | Trade Secret | Trade Secret |
| 2 | Photo initiator | 10-15 | Trade Secret | Trade Secret |
| 3 | Phthalocyanine compound | 0.1-5 | Trade Secret | Trade Secret |
| 4 | Additives | 0.1-5 | Trade Secret | Trade Secret |

4. First Aid Measures

Inhalation : If inhaled, immediately remove to fresh air and keep warm and calm.
 If breathing irregularly or not breathing, give artificial respiration and consult a doctor immediately.

Eye Contact : Immediately flush eyes with large amounts of water for at least 15 minutes.
 Remove contact lenses, if present and easy to do.
 Get immediate medical attention.

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| Skin Contact | : Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. The product don't evaporate therefore staying on the skin or clothing for a long time. If no washing or no taking off the clothing, it may cause inflammation on the skin. Wash contaminated clothing and clean shoes before reuse. |
| Ingestion | : Do not induce vomiting. If swallowed, keep calm and consult a doctor immediately. Keep from swallowing vomit. |
| Concise statement on the most important symptom | : No relevant information found. |
| Protection to first-aiders | : Wear tools for appropriate protection. Ventilate. See section 7 and 8. |
| Note to physician | : See section 7 and 8. |

5. Fire Fighting Measures

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| Flammable Properties | Autoignition temperature : Not available Flash Point : 130 degree C Flammable Limits – LEL : Not available Flammable Limits – UEL : Not available |
| Extinguishing Media | : Foam, carbon dioxide, dry chemical, water spray. Never splash water. |
| Protection of Fire Fighters | |
| Special Fire Fighting Procedures | : Wear tools for appropriate protection. Eliminate ignition sources. Stay upwind. Keep people away. Keep wetted with water surrounding equipment. Avoid discharge chemical substances to rivers and sewers. |

6. Accidental Release Measures

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| Personal | : Wear tools for appropriate protection. |
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| precautions | Keep unnecessary and unprotected personnel from entering in vicinity of spill. Ventilate. See section 8. |
| Environmental precautions | : Avoid discharge to rivers and environmental effects. |
| Steps to be taken if material is spilled | : Small spills: Absorb with nonflammable absorbent such as dry sand and dirt. Large spills: Pump spills into a sealing container and remove to safe place. Use non-sparking equipment during recovery operation and ground equipment. See section 13, Disposal Considerations, for disposing of waste. |
| Second-accident precautions | : Prepare proper fire extinguishers and eliminate all sources of ignition in vicinity of spill. Avoid walking on the spills. Use safety tools to prevent sparks. |

7. Handling And Storage

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| Handling | : Handle in well-ventilated area. Prohibit use of fire, sparks and heat source. Use antistatic clothing and shoes. Ground equipment against electrostatics and use spark-proof tools. Keep from increasing of temperature for flammable substance. Use local exhaust system and proper protection if working in closed area. Use proper protection (gloves, masks, aprons, goggles, etc.) |
| Storage | : Keep container tightly closed, store at cool and aired place, open and handle carefully. Protect from light. Protect from heat/overheating. Avoid contact with peroxides or other free radical initiators. |

8. Exposure Controls / Personal Protection

8.1. Exposure limit values

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Not applicable

8.2. Exposure controls

Engineering controls : Use explosion-proof equipment if handle in volume.
Use exhaust system to prevent vapor build-up.
Keep heat or fire sources from handling area.
If working indoors, use proper equipment to protect workers from direct exposure or use local exhaust system to protect workers from exposure.

Respiratory protection : Wear protective masks for hazardous materials.



Eye protection : Wear chemical goggles.



Hand protection : Wear gloves resistant to organic solvents and chemicals.



Skin protection : Wear clothing to protect skin from direct exposure.



Wear protective clothing resistant to chemicals.

9. Physical And Chemical Properties

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| Appearance | - Physical state | : Liquid |
| | - Color | : Cyan |
| Odor | | : Acrylate odor |
| pH | | : Not available |
| Boiling Point / Boiling Range | | : Not available |
| Melting Point / Melting Range | | : Not available |
| Flash Point | | : 130 degree C |
| Autoignition Temperature | | : Not available |
| Flammable Limits | | : Not available |

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|------------------|---------------------------|
| Vapor Pressure | : Not available |
| Specific Gravity | : 1.09(25 degree C) |
| Water Solubility | : Not available |
| Viscosity | : 22±3mPa·s (25 degree C) |
| Vapor Density | : Not available |

10. Stability And Reactivity

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| Stability | : Stable under the usual handling condition. |
| Condition to avoid | : Excessive heat and cold, sparks, ignition sources, light and high humidity. May result in polymerization. |
| Materials to avoid | : Oxidant, explosive substances, catalysts, alkaline, free radical initiators. |
| Hazardous decomposition products | : To burn this product may be produce toxic gases such as CO and low-molecular-weight monomers. |
| Other | : Plastic and rubbers might be melted. |

11. Toxicological Information

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| Acute Toxicity | -Oral | : Rats LD50 1964mg/kg |
| | -Dermal | : Rabbit LD50 2639mg/kg |
| Others | | : Not available |

12. Ecological Information

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| General notes | : 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. |
| Ecological toxicity | : Not available |
| Persistence and degradability | : Not available |
| Bioaccumulative potential | : Not available |
| Mobility | : Not available |

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13. Disposal Considerations

- Have waste inks, containers and other materials disposed by licensed industrial waste disposer.
- Do not dump drainage flushed containers and equipment into sewers, on the ground.
- Dispose of wastes from drainage or incineration, in compliance with the laws and regulations.
- Adsorb to diatom earth and others to dispose waste inks, and use open incinerator.
- Dispose of wastes by licensed industrial waste disposer to comply with the local laws and regulations.
- Empty inks and other materials out of containers if disposed.

14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

UN, IMO, ICAO: Not regulated

15. Regulatory Information

TSCA Status : All components on TSCA INVENTORY.

SARA Title

Section 311/312 : Fire Hazard: No
(40 CFR 370) Pressure Hazard: No
Reactivity Hazard: No
Immediate Hazard: Yes
Delayed Hazard: Yes

California Proposition 65 : This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

16. 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.



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MSDS No.031-35U06CC
First issue: 04/10/2009
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Revision history

| Version | Date | Content |
|---------|------------|----------------------------|
| 1.0 | 04/10/2009 | First issue |
| 2.0 | 01/22/2010 | No.1 Addition of SPC-0659C |