



Product Name: UVink LH-100 White

MSDS No. 031-38U06WC

First issue: 2012/12/03

Revised:

Page 1 of 10

Material Safety Data Sheets

1. Product and Company Identification

Product Name : UVink LH-100 White
Order No. : LH100-W-BA/SPC-0597W/SPC-0659W
Ink Ver. : 1
General Use : Inkjet Ink
Product Description : UV Inkjet Ink
MSDS Number : 031-38U06WC
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

[GHS Classification]

Physical Hazards

Flammable Liquids : Not classified

Health Hazards

Acute Toxicity – Oral : Category 5
Acute Toxicity – Dermal : Category 5
Skin Corrosion / Irritation : Category 2
Eye Damage / Irritation : Category 2A
Sensitization – Skin : Category 1
Toxic to Reproduction : Category 2

Environmental Hazards

Hazardous to the Aquatic : Category 1
Environment - Acute Hazard

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

Material Safety Data Sheets

[GHS Label Elements]

Symbol



Signal Word

Warning

Hazard Statements

H303 May be harmful if swallowed

H313 May be harmful in contact with skin

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H319 Causes serious eye irritation

H361 Suspected of damaging fertility or the unborn child

H400 Very toxic to aquatic life

Precautionary Statements

[Prevention]

P201 Obtain special instructions before use.

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

P261 Avoid breathing gas/mist.

P264 Wash hands and eyes thoroughly after handling.

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.

P281 Use personal protective equipment as required.

[Response]

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P321 Specific treatment (see 4-Response).

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

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.

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

P332+P313 If skin irritation occurs: Get medical advice/attention.

Material Safety Data Sheets

P337+P313 If eye irritation persists: Get medical advice/attention.

[Disposal]

P501 Dispose of contents/container in accordance with

local/regional/national/international regulation (to be specified).

HMIS Rating (scale 0 – 4)

Health = 2

Flammability= 1

Reactivity = 1

Protective Equipment = G

| | |
|---|----------------------|
| ② | Health |
| ① | Flammability |
| ① | Reactivity |
| G | Protective Equipment |

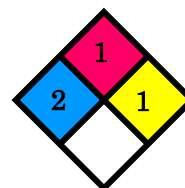
NFPA Rating (scale 0 – 4)

Health = 2

Flammability = 1

Instability = 1

Special = None



3. Composition / Information on Ingredients

| No | Chemical Name | Wt% | CAS No. | Chemical Formula |
|----|---|-------|------------|------------------|
| 1 | Acrylic ester | 75-90 | Registered | Trade secret |
| 2 | Diphenyl (2,4,6, -trimethylbenzoyl) phosphine oxide | 10-15 | Registered | Trade secret |
| 3 | Titanium dioxide | 10-15 | Registered | Trade secret |
| 4 | Additives | 0.1-5 | Registered | 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 | : Flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Consult an ophthalmologist immediately. |
| Skin Contact | : Wash skin thoroughly with plenty of water. If on clothing, remove immediately contaminated clothing. 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 |

Material Safety Data Sheets

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|---|--|
| Ingestion | cause inflammation on the skin. : 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

| | |
|---------------------|--|
| Extinguishing Media | : Foam, carbon dioxide, dry chemical, water spray. Never splash water. |
| Hazard in fire | : Avoid breathing combustion products. |
| Fire Fighting | : Wear tools for appropriate protection. |
| Instructions | 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

| | |
|--|--|
| Personal Precautions | : Wear tools for appropriate protection. Keep unnecessary and unprotected personnel from entering in vicinity of spill. Ventilate. See section 8. |
| Environmental precautions | : Avoid discharge to rivers and environmental effects. |
| Methods and materials for containment and cleaning up. | : Small spills: Absorb with nonflammable absorbent such as dry sand and dirt. Large spills: |



Product Name: UVink LH-100 White

MSDS No. 031-38U06WC

First issue: 2012/12/03

Revised:

Page 5 of 10

Material Safety Data Sheets

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

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

Exposure Limit Values

| No | Chemical Name | | TWA | STEL | Ceiling | Skin | SEN |
|----|------------------|------------|---------|------|---------|------|------|
| 1 | Titanium dioxide | 2000/39/EC | N.E. | N.E. | N.E. | N.E. | N.E. |
| | | ACGIH TLV | 10mg/m3 | N.E. | N.E. | N.E. | N.E. |

Exposure Controls

Occupational Exposure Controls

Engineering Controls

: Use explosion-proof equipment if handle in volume.

Use exhaust system to prevent vapor build-up.

Material Safety Data Sheets

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.

Personal Protection

Respiratory Protection : Wear protective masks for hazardous materials.



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



Eye Protection : Wear chemical goggles.



Skin Protection : Wear clothing to protect skin from direct exposure.
Wear protective clothing resistant to chemicals.

9. Physical and Chemical Properties

| | | |
|-------------------------------|------------------|-----------------------|
| Appearance | - Physical State | : Liquid (25°C) |
| | - Color | : White |
| 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 | | : Not available |
| Explosive Limits | | |

Material Safety Data Sheets

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|---|----------------------------|
| Vapor Pressure | |
| Relative Density | : 1.18(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 |
| Solvent content | : Organic solvents ≤0.5Wt% |
| water amount | : ≤0.7Wt% |

10. Stability and Reactivity

| | |
|-------------------------------------|---|
| Reactivity | : Excessive heat and cold, sparks, ignition sources, light and high humidity. May result in polymerization. |
| Chemical stability | : Stable under the usual handling condition. |
| Possibility of hazardous reactions; | : See section reactivity. |
| Conditions to avoid | : Excessive heat and cold, sparks, ignition sources, light and high humidity. |
| Incompatible materials | : 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

| | |
|-----------------|--|
| Acute Toxicity | Oral: Rats LD50 >2,000mg/kg: Category 5 Dermal: Rabbit LD50 >2,000mg/kg: Category 5 |
| Carcinogenicity | : Titanium dioxide IARC category 2B(Not possible to classify as a printing ink) |
| Others | : Not available |

Material Safety Data Sheets

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 | : Hazardous to the aquatic environment Acute hazard L(E)C50 <1.00mg/L: Category 1 |
| Mobility | : Not available |
| Persistence and | : Not available |
| Degradability | |
| Bioaccumulative | : Not available |
| Potential | |
| Other Adverse Effects | : Not available |

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.

Comply with all USA, national and local regulations.

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

14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

LAND TRANSPORT

| | | |
|----------|----------------------|--|
| ADR, RID | UN Number | : 3082 |
| | Name and description | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |



Product Name: UVink LH-100 White

MSDS No. 031-38U06WC

First issue: 2012/12/03

Revised:

Page 9 of 10

Material Safety Data Sheets

| | |
|---------------------------|---|
| Class | : 9 Miscellaneous dangerous substances and articles |
| Packing Group (PG) | : III |
| Hazard label | : 9 |
| Hazard Identification No. | : 90 |
| Classification code | : M6 |
| Transport category | : 3 |
| (Tunnel restriction code) | (E) |

SEA TRANSPORT

| | | |
|----------|----------------------|--|
| IMO/IMDG | UN Number | : 3082 |
| | Proper shipping name | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| | Class | : 9 |
| | Packing Group (PG) | : III |
| | Hazard label | : 9 |

AIR TRANSPORT

| | | |
|-----------|----------------------------------|---|
| ICAO/IATA | UN Number | : 3082 |
| | Proper shipping name | : Environmentally hazardous substance, liquid, n.o.s. |
| | Class | : 9 |
| | Packing Group (PG) | : III |
| | Hazard label | : 9 |
| | Passenger and Cargo Limited | : Y964 |
| | Quantity Packing Instructions | |
| | Packing Instructions (Passenger) | : 964 |
| | Packing Instructions (Cargo) | : 964 |

15. Regulatory Information

TSCA Status : All components on TSCA INVENTORY.

SARA Title III

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.



Product Name: UVink LH-100 White

MSDS No. 031-38U06WC

First issue: 2012/12/03

Revised:

Page 10 of 10

Material Safety Data Sheets

16. Other Information

References

International Chemical Safety Cards (ICSC)

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

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Revision history

| Version | Date | Content |
|---------|------------|-------------|
| 1.0 | 2012/12/03 | First issue |