

Safety Data Sheets

1. IDENTIFICATION

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|-------------------------------------|--|
| Product Identifier | UV ink LUS-210 Cyan |
| Product code | LUS21-C-BA |
| Recommended use and restriction use | INK JET ink |
| Supplier name | MIMAKI ENGINEERING CO., LTD. |
| Address | 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN |
| Telephone number | +81-268-64-2413 |
| Importer / Distributor Information | MIMAKI SINGAPORE PTE. LTD. |
| Address | 31 Kaki Bukit Road 3 Singapore 417818 TechLink #02-03 |
| Telephone number | +65-6508-2789 |
| Emergency telephone number | +65 3165 2217 (within Singapore only) +65 3158 1074 |

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

| | |
|-------------------------------|--|
| Physical and chemical hazards | Flammable liquids Not classified |
| Health hazards | Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2A Sensitization – skin Category 1 Reproductive toxicity Category 2 |
| Environmental Hazards | Hazard to the aquatic environment (acute hazard) Category 1 Hazard to the aquatic environment (long-term hazard) Category 2 |

GHS LABEL ELEMENTS

Pictograms



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| Signal Word | Warning |
| Hazard Statements | H315 Causes skin irritation H319 Causes serious eye irritation H317 May cause an allergic skin reaction H361 Suspected of damaging fertility or the unborn child H400 Very toxic to aquatic life H411 Toxic to aquatic life with long lasting effects |

Precautionary Statements

Prevention

Obtain special instructions before use(P201)
Do not handle until all safety precautions have been read and understood(P202)
Avoid breathing mist, vapours and spray.(P261)
Wash thoroughly after handling.(P264)
Contaminated work clothing should not be allowed out of the workplace.(P272)

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| Response | Avoid release to the environment(P273) Wear protective gloves, eye protection and face protection.(P280) IF ON SKIN: Wash with plenty of soap and water(P302+P352) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing(P305+P351+P338) IF exposed or concerned: Get medical advice/attention(P308+P313) Specific treatment.(P321) If skin irritation or rash occurs: Get medical advice/attention(P333+P313) If eye irritation persists: Get medical advice/attention(P337+P313) Take off contaminated clothing and wash it before reuse.(P362+P364) Collect spillage(P391) |
| Storage | Store locked up(P405) |
| Disposal | Dispose of contents/ container to an approved landfill.(P501) |

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Substances or mixtures | Mixtures | | |
|---|----------|------------------|--------------|
| Chemical name | Contents | Chemical Formula | CAS RN |
| Acrylate Resin | 5-15% | Unknown | Confidential |
| Hexane-1,6-diyl diacrylate | 70-80% | Unknown | 13048-33-4 |
| 2-Propen-1-one, 1-(4-morpholinyl)- | 0.1-1% | Unknown | 5117-12-4 |
| Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide | 5-10% | Unknown | 75980-60-8 |
| C.I. Pigment blue-15:3 | 5-10% | Unknown | 147-14-8 |

4. FIRST-AID MEASURES

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| In case of inhalation | IF exposed or concerned: Get medical advice and attention. Call a doctor if you feel unwell. |
| In case of skin contact | IF exposed or concerned: Get medical advice and attention. IF ON SKIN: Wash with plenty of soap and water. Take of contaminated clothing and wash before re-use. If skin irritation or rash occurs, get medical advice and attention. Specific treatment. |
| In case of eye contact | IF exposed or concerned: Get medical advice and attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| In case of ingestion | IF exposed or concerned: Get medical advice and attention. Rinse mouth. IF SWALLOWED: Call a doctor if you feel unwell. |

5. FIRE-FIGHTING MEASURES

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| Suitable fire-extinguishing media | Dry chemicals, CO2, fog, alcohol-resistant foam or sand. |
| Not suitable extinguishing media | Cylindric water. |
| Specific hazards arising from the chemical | Risk of producing harmful gases such as carbon monoxide. Avoid inhalation of smoke or gases. |
| Special protective actions for fire fighters | Use goggles in combination with dust mask, and another protections as appropriate to situation. |

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions, protective equipment and emergency procedures | Use goggles in combination with dust mask, and another protections as appropriate to situation. |
| Environmental precautions | Large spills :Evacuate area. Ensure adequate ventilation. Collect spillage. Do not discharge into the drains, surface waters or ground water directly. |
| Methods and materials for containment and cleaning up | small spill : absorb with material such as non-combustible material wash thoroughly after handling Large spills: Dike spills and dispose of in safe area. |
| Prevention Measures for Secondary Accidents | Keep away from sources of ignition and prepare extinguishing media. Risk of slipping. Spilled material forms slippery floor. Do not recklessly walk on the spillage. |

7. HANDLING AND STORAGE

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| Handling | |
| Technical measures | Use local exhaust ventilation in case of production of fume or mist. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. |
| Safe handling advice | Wash hands thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing dust/fume/gas/mist/vapours/spray. |
| Storage | |
| Suitable storage conditions | Store locked up. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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| Engineering measures | Use local exhaust ventilation in case of production of fume or mist. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use explosion-proof electrical equipment and prevent from static |
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| Individual protection measures | electrocity. |
| Respiratory protection | If necessary, wear respiratory protection. |
| Hand protection | Wear protective gloves. |
| Eye protection | Wear eye protection/face protection. |
| Skin and body protection | Wear protective clothing. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance | |
| Physical State | Liquid |
| Color | blue |
| Odor | ester |
| Odor threshold | No data available |
| pH | No data available |
| Melting point | No data available |
| Boiling point | No data available |
| Flash point | >100°C(closed cup) |
| Evaporation rate | No data available |
| Flammability(Solid,Gas) | No data available |
| Flammability or explosive limits | No data available |
| Vapor pressure | No data available |
| Vapor density | No data available |
| Relative density | No data available |
| Solubility(ies) | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity | No data available |

10. STABILITY AND REACTIVITY

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|------------------------------------|---|
| Reactivity | No information available |
| Chemical stability | Stable under normal conditions of use. |
| Possibility of hazardous reactions | Polymerization and curing may occur when exposed to light, particularly ultraviolet rays. |
| Conditions to avoid | Heat source, storage near fire source, direct sunlight, ultraviolet rays |
| Incompatible materials | Oxidizing agent, oxides of Iron, strong base |
| Hazardous decomposition products | Carbon dioxide, carbon monoxide |

11. TOXICOLOGICAL INFORMATION

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|-----------------------|---|
| Acute toxicity (Oral) | Category 4:5117-12-4 (converted value = 500mg/kg, source: 1272/2008/EC) Not classified:147-14-8 (source: NITE) |
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| | Classification not possible:75980-60-8 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) No data:Confidential (source: None) |
| Acute toxicity (Dermal) Acute toxicity (Inhalation : Gases) Acute toxicity (Inhalation : Vapours) Acute toxicity (Inhalation : dust/mist) Skin corrosion/ Irritation | Calculation result = 8500mg/kg. Classification result = Classification not possible. Unable to classify due to insufficient data. Does not fall under gas based on GHS definitions. Unable to classify due to insufficient data. Unable to classify due to insufficient data. Category 2:13048-33-4 (source: Registered substances (ECHA)) Not classified:147-14-8 (source: NITE) Classification not possible:75980-60-8 (source: 1272/2008/EC), 5117-12-4 (source: 1272/2008/EC) No data:Confidential (source: None) |
| Serious eye damage/ irritation | Sum of Category 2 Concentration limit = 10%. Classification result = Category 2. Category 1:5117-12-4 (source: 1272/2008/EC) Category 2:13048-33-4 (source: Registered substances (ECHA)) Classification not possible:147-14-8 (source: NITE), 75980-60-8 (source: 1272/2008/EC) No data:Confidential (source: None) |
| Respiratory Sensitization Skin Sensitization | Sum of Eye category 2 Concentration limit = 10%. Classification result = Category 2A. Unable to classify due to insufficient data. Category 1:5117-12-4 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) Classification not possible:147-14-8 (source: NITE), 75980-60-8 (source: 1272/2008/EC) No data:Confidential (source: None) |
| | 13048-33-4 >= 1% Classification result = Category 1 |
| Germ cell mutagenicity Carcinogenicity Reproductive toxicity | Ingredients not contributing to classification: 5117-12-4 (category = Category 1, source: 1272/2008/EC) Unable to classify due to insufficient data. Unable to classify due to insufficient data. Category 2:75980-60-8 (source: 1272/2008/EC) Classification not possible:147-14-8 (source: NITE), 5117-12-4 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances |

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| | (ECHA)) No data:Confidential (source: None) |
| Reproductive toxicity, effects on or via lactation | 75980-60-8 >= 3% Classification result = Category 2 Unable to classify due to insufficient data. |
| Specific target organ Toxicity – Single Exposure | Unable to classify due to insufficient data. |
| Specific target organ toxicity – Repeated Exposure | Category 2:5117-12-4 (organ = ---, source: 1272/2008/EC) Classification not possible:147-14-8 (source: NITE), 75980-60-8 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) No data:Confidential (source: None) |
| Aspiration hazard | Substances classified as hazardous are below the concentration limit. Contains substance of unknown toxicity. Changed from Not classified to Classification not possible. Unable to classify due to insufficient data. |

12. ECOLOGICAL INFORMATION

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| Hazardous to the Aquatic Environment – Acute Toxicity | Category 1:13048-33-4 (source: Registered substances (ECHA)) Classification not possible:147-14-8 (source: NITE), 75980-60-8 (source: 1272/2008/EC), 5117-12-4 (source: 1272/2008/EC) No data:Confidential (source: None) |
| Hazardous to the Aquatic Environment – Chronic Toxicity | Category 1 x M factor >= concentration limit(25%). Classification result = Category 1. Category 2:13048-33-4 (source: Registered substances (ECHA)) Classification not possible:147-14-8 (source: NITE), 75980-60-8 (source: 1272/2008/EC), 5117-12-4 (source: 1272/2008/EC) No data:Confidential (source: None) |
| Hazardous to the Ozone layer | (M factor x 10 x Category 1) + Category 2 >= Concentration limit(25%). Classification result = Category 2. Unable to classify due to insufficient data. |

13. DISPOSAL CONSIDERATIONS

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| Residual Waste | Before disposal, make the wastes harmless, stabilized, and neutralized, and minimize danger and toxicity of the wastes. Dispose of waste in accordance with local, state and federal regulations. |
| Contaminated Container and Packaging | Passed to a licensed waste contractor. |

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In case of disposal of empty containers, remove the content thoroughly.

14. TRANSPORT INFORMATION

International regulations

Sea(IMDG)

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|----------------------------|---|
| UN number | 3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Transport hazard class(es) | 9 |
| Packing group | III |
| Special Provision | 2.10.2.7 *1 |

air(IATA)

| | |
|----------------------------|---|
| UN number | 3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. |
| Transport hazard class(es) | 9 |
| Packing group | III |
| Special Provision | A197 *1 |

*1 Single or inner packaging less than 5 L (liquid) or 5 kg net (solids) is excepted from Dangerous Goods regulations -- see UN Special Provision.

15. REGULATORY INFORMATION

No main regulation

Component Analysis – Inventory

Hexane-1,6-diyl diacrylate (13048-33-4)

| TSCA – United States | ENCS – Japan | KECI Annex 1, 2 – Korea | IECSC – China | DSL/NDSL – Canada | PICCS – Philippines | AICS – Australia | EINECS/ELINCS – European Union | TCSI – Taiwan | NZIoC – New Zealand |
|----------------------------|-----------------|-------------------------------|------------------|----------------------|------------------------|---------------------|--------------------------------------|---------------------|---------------------------|
| Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

2-Propen-1-one, 1-(4-morpholinyl)- (5117-12-4)

| TSCA – United States | ENCS – Japan | KECI Annex 1, 2 – Korea | IECSC – China | DSL/NDSL – Canada | PICCS – Philippines | AICS – Australia | EINECS/ELINCS – European Union | TCSI – Taiwan | NZIoC – New Zealand |
|----------------------------|-----------------|-------------------------------|------------------|----------------------|------------------------|---------------------|--------------------------------------|---------------------|---------------------------|
| Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide (75980-60-8)

| TSCA – United States | ENCS – Japan | KECI Annex 1, 2 – Korea | IECSC – China | DSL/NDSL – Canada | PICCS – Philippines | AICS – Australia | EINECS/ELINCS – European Union | TCSI – Taiwan | NZIoC – New Zealand |
|----------------------------|-----------------|-------------------------------|------------------|----------------------|------------------------|---------------------|--------------------------------------|---------------------|---------------------------|
| Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

C.I. Pigment blue-15:3 (147-14-8)

| TSCA – United States | ENCS – Japan | KECI Annex 1, 2 – Korea | IECSC – China | DSL/NDSL – Canada | PICCS – Philippines | AICS – Australia | EINECS/ELINCS – European Union | TCSI – Taiwan | NZIoC – New Zealand |
|----------------------------|-----------------|-------------------------------|------------------|----------------------|------------------------|---------------------|--------------------------------------|---------------------|---------------------------|
| Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Safety Data Sheets

16. OTHER INFORMATION

Literature References

NITE GHS

EU CLP Regulation, AnnexVI

Other data

The information suggested in this Safety Data Sheet does not comprehend everything and should be adopted only as a guide. The accuracy of the information and recommendations suggested herein are credible. However the company makes no warranty regarding such information and recommendations and disclaims all liability for reliance thereon.