Safety Data Sheets

1. IDENTIFICATION

Product Identifier	UV ink LUS-210 White
Product code	LUS21-W-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 Carcinogenicity Category 2 Reproductive toxicity Category 2 Specific target organ toxicity (repeated exposure) Category 1 (respiratory apparatus)
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

Signal Word	Danger
Hazard Statements	H315 Causes skin irritation H319 Causes serious eye irritation H317 May cause an allergic skin reaction H351 Suspected of causing cancer H361 Suspected of damaging fertility or the unborn child H372 Causes damage to organs(respiratory apparatus) through prolonged or repeated exposure 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) Do not breathe mist, vapours and spray.(P260) Wash thoroughly after handling.(P264) Do not eat, drink or smoke when using this product(P270) Contaminated work clothing should not be allowed out of the workplace.(P272) Avoid release to the environment(P273) Wear protective gloves, eye protection and face protection.(P280)
Response	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) Get medical advice/attention if you feel unwell(P314) 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	20-30%	Unknown	Confidential
Hexane-1,6-diyl diacrylate	30-40%	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
Titanium dioxide	25-35%	TiO2	13463-67-7

4. FIRST-AID MEASURES

In case of inhalation	Call a doctor if you feel unwell. IF exposed or concerned: Get medical advice and attention.
In case of skin contact	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. IF exposed or concerned: Get medical advice and attention. Specific treatment.

In case of eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice and attention.
In case of ingestion	Rinse mouth. IF SWALLOWED: Call a doctor if you feel unwell. IF exposed or concerned: Get medical advice and attention.

5. FIRE-FIGHTING MEASURES

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

Personal precautions, protective equipment and emergency procedures	Use goggles in combination with dust mask, and another protections as appropriate to situation. Large spills :Evacuate area. Ensure adequate ventilation.
Environmental precautions	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 materialwash 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

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	Do not eat, drink or smoke when using this product. 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.

Do not breathe dust/fume/gas/mist/vapours/spray.

Storage

Suitable storage conditions: Store locked up.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

	ACGIH (TLV)	OSHA (PEL)	Workplace Safety And Health (General Provisions) Regulations
Titanium dioxide	TWA 10 mg/m3,STEL -	15 mg/m3 TWA (total dust)	10 mg/m3 PEL

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 electrocity.

Individual protection measures

- 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

Appearance	
Physical State	Liquid
Color	white
Odor	ester
Odor threshold	No data available
pH	No data available
Melting point	No data available
Boiling point	No data available
Flash point	>100℃(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

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

Acute toxicity (Oral)	Category 4:5117-12-4 (converted value = 500mg/kg, source: 1272/2008/EC) Not classified:13463-67-7 (source: NITE) Classification not possible:75980-60-8 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) No data:Confidential (source: None) Calculation result = 30500mg/kg. Classification result = Classification not possible.
Acute toxicity (Dermal)	Unable to classify due to insufficient data.
Acute toxicity (Inhalation : Gases)	Does not fall under gas based on GHS definitions.
Acute toxicity (Inhalation : Vapours)	Unable to classify due to insufficient data.
Acute toxicity (Inhalation : dust/mist)	Unable to classify due to insufficient data.
Skin corrosion/ Irritation	Category 2:13048-33-4 (source: Registered substances (ECHA)) Not classified:13463-67-7 (source: NITE) Classification not possible:75980-60-8 (source: 1272/2008/EC), 5117-12-4 (source: 1272/2008/EC) No data:Confidential (source: None) Sum of Category 2 Concentration limit = 10%. Classification result = Category 2.
Serious eye damage/ irritation	Category 1:5117-12-4 (source: 1272/2008/EC) Category 2:13048-33-4 (source: Registered substances (ECHA)) Not classified:13463-67-7 (source: NITE) Classification not possible:75980-60-8 (source: 1272/2008/EC) No data:Confidential (source: None) Sum of Eye category 2 Concentration limit = 10%. Classification result = Category 2A.
Respiratory Sensitization	Unable to classify due to insufficient data.
Skin Sensitization	Category 1:5117-12-4 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) Classification not possible:13463-67-7 (source: NITE), 75980-60-8

	(source: 1272/2008/EC) No data:Confidential (source: None)
	13048-33-4 >= 1% Classification result = Category 1
	Ingredients not contributing to classification: 5117-12-4 (category = Category 1, source: 1272/2008/EC)
Germ cell mutagenicity	Unable to classify due to insufficient data.
Carcinogenicity	Category 2:13463-67-7 (source: NITE) Classification not possible:75980-60-8 (source: 1272/2008/EC), 5117-12-4 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) No data:Confidential (source: None)
	13463-67-7 >= 1% Classification result = Category 2
Reproductive toxicity	Category 2:75980-60-8 (source: 1272/2008/EC) Classification not possible:13463-67-7 (source: NITE), 5117-12-4 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) No data:Confidential (source: None)
	75980-60-8 >= 3% Classification result = Category 2
Reproductive toxicity, effects on or via lactation	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 1:13463-67-7 (organ = respiratory apparatus, source: NITE) Category 2:5117-12-4 (organ = ---, source: 1272/2008/EC) Classification not possible:75980-60-8 (source: 1272/2008/EC), 13048-33-4 (source: Registered substances (ECHA)) No data:Confidential (source: None)
	13463-67-7 >= 10% Classification result = Category 1(respiratory apparatus)
Aspiration hazard	Unable to classify due to insufficient data.

12. ECOLOGICAL INFORMATION

Hazardous to the Aquatic Environment – Acute Toxicity	Category 1:13048-33-4 (source: Registered substances (ECHA)) Classification not possible:13463-67-7 (source: NITE), 75980-60-8 (source: 1272/2008/EC), 5117-12-4 (source: 1272/2008/EC) No data:Confidential (source: None)

	Category 1 x M factor >= concentration limit(25%). Classification result = Category 1.
Hazardous to the Aquatic Environment - Chronic Toxicity	Category 2:13048-33-4 (source: Registered substances (ECHA)) Classification not possible:13463-67-7 (source: NITE), 75980-60-8 (source: 1272/2008/EC), 5117-12-4 (source: 1272/2008/EC) No data:Confidential (source: None) (M factor x 10 x Category 1) + Category 2 >= Concentration limit(25%). Classification result = Category 2.
Hazardous to the Ozone layer	Unable to classify due to insufficient data.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

International regulations

Sea(IMDG)

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

Workplace Safety And Health	Occupational Exposure Limits
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

Titanium dioxide (13463-67-7)

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

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.