

Safety Data Sheet

1. IDENTIFICATION

Product Identifier	: ELH-100 Clear
Product code	: ELH100-CL-BA / ELH100-CL-B2 / ELH100-CL-60 / ELH100-CL-22
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 name	: 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

Health hazards	: Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 1 Sensitization – skin Category 1
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GHS LABEL ELEMENTS

Pictograms	: 
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Signal Word	: Danger
Hazard Statements	: H315 Causes skin irritation H317 May cause an allergic skin reaction H318 Causes serious eye damage

Precautionary Statements

Prevention	: Avoid breathing mist, vapours and spray.(P261) Wash thoroughly after handling.(P264) Contaminated work clothing should not be allowed out of the workplace.(P272) Wear protective gloves/protective clothing/eye protection/face protection(P280)
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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) Immediately call a POISON CENTER/doctor(P310) If skin irritation or rash occurs: Get medical advice/attention(P333+P313)
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Storage : Take off contaminated clothing and wash it before reuse.(P362+P364)

Disposal : Not applicable.

Disposal : Dispose of waste in accordance with local,state and federal regulations.(P501)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances or mixtures : Mixtures

Chemical name	Contents	CAS RN
2-Propenoic acid, 2-[2-(ethenyloxy)ethoxy]ethyl ester	30-40%	86273-46-3
Acrylate monomer	15-25%	Confidential
1,6-Hexanediol diacrylate	10-20%	13048-33-4
Dipropylene Glycol Diacrylate	5-15%	57472-68-1
2-Hydroxy-3-phenoxypropyl Acrylate	5-15%	16969-10-1
Photo initiator	5-15%	Confidential
4-hydroxy-2,2,6,6-tetramethylpiperidinoxyl	0.1-5%	2226-96-2
Additive	0.1-5%	Confidential

4. FIRST-AID MEASURES

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Take of contaminated clothing and wash before re-use. Get medical attention if symptoms occur.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. IF exposed or concerned: Get medical advice and attention.

Ingestion : Rinse mouth. Do not induce vomiting unless directed to do so by medical personnel. IF exposed or concerned: Get medical advice and attention.

5. FIRE-FIGHTING MEASURES

Suitable fire-extinguishing media : Dry chemicals, CO2, water spray or regular foam.

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.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Put on appropriate personal protective equipment. Large spills :Evacuate area. Ensure adequate ventilation.
Environmental precautions	:	Collect spillage. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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 handle until all safety precautions have been read and understood. Avoid release to the environment. 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. Obtain special instructions before use.
Storage		
Suitable storage conditions	:	Store in well-ventilated place. Store locked up.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters	:	No data available
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 electricity.
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.
Hygiene measures	:	Wash hand thoroughly after handling.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State	: Liquid
Color	: Clear
Odor	: Unique odor
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Boiling point	: No data available
Flash point	: $\geq 120^{\circ}\text{C}$
Evaporation rate	: No data available
Flammability(Solid,Gas)	: Combustible
Flammability or explosive limits	: No data available
Vapor pressure	: No data available
Vapor density	: No data available
Relative density	: 1.0–1.2
Solubility(ies)	: Non-water-soluble
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: $23 \pm 3 \text{ mPa} \cdot \text{s} (25^{\circ}\text{C})$

10. STABILITY AND REACTIVITY

Reactivity	: Stable under normal conditions of use.
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	: Strong oxidizing agents, radical initiator, inert gas, oxygen scavenger.
Hazardous decomposition products	: Combustion may produce toxic gas, carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity (Oral)	: Category 4:2226-96-2 (converted value = 500mg/kg, source: Registered substances (ECHA)), 86273-46-3 (toxicity value = 1908mg/kg, source: Self-classification) Category 5:57472-68-1 (toxicity value = 3530mg/kg, source: Self-classification) Classification not possible:13048-33-4 (source: 1272/2008/EC),
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16969-10-1 (source: Registered substances (ECHA)), Confidential
(source: NITE), Confidential (source: 1272/2008/EC)

No data:Confidential

Calculation result = 2032.8524617mg/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: 1272/2008/EC), 57472-68-1 (source: Self-classification) Classification not possible:2226-96-2 (source: Registered substances (ECHA)), 16969-10-1 (source: Registered substances (ECHA)), Confidential (source: NITE), Confidential (source: 1272/2008/EC), 86273-46-3 (source: Self-classification) No data:Confidential

Sum of Category 2 Concentration limit = 10%. Classification result =
Category 2.

Serious eye damage/ irritation	:	Category 1:2226-96-2 (source: Registered substances (ECHA)), 16969-10-1 (source: Registered substances (ECHA)), 57472-68-1 (source: Self-classification) Category 2:13048-33-4 (source: 1272/2008/EC) Classification not possible:Confidential (source: NITE), Confidential (source: 1272/2008/EC), 86273-46-3 (source: Self-classification) No data:Confidential
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Sum of Eye category 1 Concentration limit = 3%. Classification result
= Category 1.

Respiratory Sensitization	:	Unable to classify due to insufficient data.
Skin Sensitization	:	Category 1:13048-33-4 (source: 1272/2008/EC), 57472-68-1 (source: Self-classification), 86273-46-3 (source: Self-classification) Category 1A:Confidential (source: 1272/2008/EC) Category 1B:16969-10-1 (source: Registered substances (ECHA)) Classification not possible:2226-96-2 (source: Registered substances (ECHA)), Confidential (source: NITE) No data:Confidential

86273-46-3 >= 1% Classification result = Category 1

Germ cell mutagenicity	:	Unable to classify due to insufficient data.
Carcinogenicity	:	Unable to classify due to insufficient data.

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Reproductive toxicity	: Unable to classify due to insufficient data.
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 2:2226-96-2 (organ = spleen, liver, source: Registered substances (ECHA)) Classification not possible:13048-33-4 (source: 1272/2008/EC), 16969-10-1 (source: Registered substances (ECHA)), Confidential (source: NITE), 57472-68-1 (source: Self-classification), Confidential (source: 1272/2008/EC), 86273-46-3 (source: Self-classification) No data:Confidential
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

Hazardous to the Aquatic Environment – Acute Toxicity	: Classification not possible:2226-96-2 (source: Registered substances (ECHA)), 13048-33-4 (source: 1272/2008/EC), 16969-10-1 (source: Registered substances (ECHA)), Confidential (source: NITE), 57472-68-1 (source: Self-classification), Confidential (source: 1272/2008/EC), 86273-46-3 (source: Self-classification) No data:Confidential
Hazardous to the Aquatic Environment – Chronic Toxicity	: Contains substance of unknown toxicity. Changed from Not classified to Classification not possible. : Category 2:16969-10-1 (source: Registered substances (ECHA)) Category 3:86273-46-3 (source: Self-classification) Category 4:Confidential (source: 1272/2008/EC) Classification not possible:2226-96-2 (source: Registered substances (ECHA)), 13048-33-4 (source: 1272/2008/EC), Confidential (source: NITE), 57472-68-1 (source: Self-classification) No data:Confidential
Hazardous to the Ozone layer	: (M factor x 100 x Category 1) + (10 x Category 2) + Category 3 >= Concentration limit(25%). Classification result = Category 3. does not apply to the target country. : Unable to classify due to insufficient data.

13. DISPOSAL CONSIDERATIONS

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Residual Waste	:	Disposal should be in accordance with applicable regional, national and local laws and regulations. Passed to a licensed waste contractor.
Contaminated Container and Packaging	:	Disposal should be in accordance with applicable regional, national and local laws and regulations. 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

Air(IATA)

UN number	:	3082
UN proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Transport hazard class(es)	:	9
Packing group	:	III

15. REGULATORY INFORMATION

No main regulation

16. OTHER INFORMATION

Literature References	:	SDS of raw material National Institute of Technology and Evaluation (NITE) GHS Classifications List Regulation (EC) 1272/2008 Annex VI Regulation (EC) 1907/2006 registered substances
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.