Section 1 – Identification

Product identifier	
Product name	MH-110 Ink Pure Clear
Product code	MH110-PCL-BD
Recommended use of the chemical and restrictions on use	UV curable 3D model ink
Details of manufacturer or importer	MIMAKI ENGINEERING CO., LTD. 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 Japan +81-268-64-2413
Importer / Distributor Information	MIMAKI AUSTRALIA PTY LTD. Unit 14, 38-46 South Street, Rydalmere, NSW 2116, Australia + 61-2-8036-4500
Emergency telephone number	+61 2 8014 4558 (within Australia only) 18000 74234 (within Australia only) +65 3158 1074

Section 2 – Hazard(s) Identification

Classification of the hazardous chemical

Acute toxicity – oral Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Sensitization – skin Category 1
Reproductive toxicity Category 2
Specific target organ toxicity (repeated exposure) Category 2
Hazard to the aquatic environment (acute hazard) Category 2
Hazard to the aquatic environment (long-term hazard) Category 2

Label elements, including precautionary statements

Pictograms or Symbols

Signal Word: Danger

Hazard Statements:
H302 Harmful if swallowed
H315 Causes skin irritation
H318 Causes serious eye damage
H317 May cause an allergic skin reaction
H361 Suspected of damaging fertility or the unborn child
H373 May cause damage to organs through prolonged or repeated exposure
H401 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) Use personal protective equipment as required.(P281)
Response	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell(P301+P312) 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) Immediately call a POISON CENTER/doctor(P310) Get medical advice/attention if you feel unwell(P314) Specific treatment.(P321) Rinse mouth(P330) If skin irritation or rash occurs: Get medical advice/attention(P333+P313) Take off contaminated clothing and wash it before reuse.(P362) Collect spillage(P391)
Storage	Store locked up(P405)
Disposal	Dispose of contents/ container to an approved landfill.(P501)

Section 3 – Composition and Information on Ingredients

Substances or mixture: Mixtures

Ingredients name	Contents	Chemical formula	CAS RN
Acryl ester	45-55%	Unknown	Confidential
Isobornyl acrylate	10-20%	Unknown	5888-33-5
Oligomer	10-20%	Unknown	Confidential
4-(1-oxo-2-propenyl)-morpholine	5-15%	Unknown	5117-12-4
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	1-10%	Unknown	75980-60-8
4-Hydroxy-2,2,6,6-tetramethylpiperidinoxyl	<1%	Unknown	2226-96-2
Additives	<0.1%	Unknown	Confidential

Section 4 – First Aid Measures

In case of inhalation: Call a doctor if you feel unwell.

In case of skin contact	IF ON SKIN: Wash with plenty of soap and water. Specific treatment. Take off immediately all contaminated clothing and wash it before reuse. Call a doctor if you feel unwell.
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.
In case of ingestion	Rinse mouth. IF SWALLOWED: Call a doctor if you feel unwell.

Section 5 – Fire Fighting Measures

Suitable extinguishing equipment	Dry chemical, alcohol-resistant foam, CO2, 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 equipment and precautions for fire fighters	Use goggles in combination with dust mask, and another protections as appropriate to situation.

Section 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	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.

Section 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	Wash hands thoroughly after handling. Wear protective gloves/protective clothing.
Storage	
Suitable storage conditions	Store locked up.

Section 8 – Exposure controls and personal protection

Control parameters	No data available
Engineering controls	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, for example personal protective equipment (PPE)	
Eye and face protection	If necessary,wear protective eye protection.
Skin protection	Wear protective clothing.
Hand protection	Wear protective gloves.
Respiratory protection	If necessary, wear respiratory protection.

Section 9 - Physical and Chemical Properties

Appearance	
Physical state	Liquid
Color	Clear to light yellow
Odor	Unique odor
Odor threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling ranget	No data available
Flash point	93℃ or more
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	1.08(25℃)
Solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	57.1±3mPa･s(25℃)

Section 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	No information available
Incompatible materials	Strong oxidizing agents, radical initiator, inert gas, oxygen scavenger
Hazardous decomposition	Combustion may produce toxic gas, carbon monoxide and carbon dioxide.

products

Section 11 - Toxicological Information

Acute toxicity (Oral)	Category 4:2226-96-2 (converted value = 500mg/kg, source: Registered substances (ECHA)), 5117-12-4 (converted value = 500mg/kg, source: GHS Hazardous Chemical Information List) Not classified:5888-33-5 (toxicity value = 5000mg/kg, source: Registered substances (ECHA)) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List) No data:Confidential (source: None) Calculation result = 1148.3050847mg/kg. Classification result = Category 4.
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 2:5888-33-5 (source: Registered substances (ECHA)) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List), 2226-96-2 (source: Registered substances (ECHA)), 5117-12-4 (source: GHS Hazardous Chemical Information List) No data:Confidential (source: None) Sum of Category 2 Concentration limit = 10%. Classification result = Category 2.
Serious eye damage/ irritation	Category 1:2226-96-2 (source: Registered substances (ECHA)), 5117-12-4 (source: GHS Hazardous Chemical Information List) Category 2:5888-33-5 (source: Registered substances (ECHA)) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List) No data:Confidential (source: None) Sum of Eye category 1 Concentration limit = 3%. Classification result = Category 1.
Respiratory Sensitization	Unable to classify due to insufficient data.
Skin Sensitization	Category 1:5117-12-4 (source: GHS Hazardous Chemical Information List), 5888-33-5 (source: Registered substances (ECHA)) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List), 2226-96-2 (source: Registered substances (ECHA)) No data:Confidential (source: None)

	5888-33-5 >= 1% Classification result = Category 1
Germ cell mutagenicity	Unable to classify due to insufficient data.
Carcinogenicity	Unable to classify due to insufficient data.
Reproductive toxicity	Category 2:75980-60-8 (source: GHS Hazardous Chemical Information List) Classification not possible:2226-96-2 (source: Registered substances (ECHA)), 5117-12-4 (source: GHS Hazardous Chemical Information List), 5888-33-5 (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	Category 3:5888-33-5 (organ = respiratory tract irritation, source: Registered substances (ECHA)) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List), 2226-96-2 (source: Registered substances (ECHA)), 5117-12-4 (source: GHS Hazardous Chemical Information List) No data:Confidential (source: None)
	Substances classified as hazardous are below the concentration limit. Contains substance of unknown toxicity. Changed from Not classified to Classification not possible.
Specific target organ toxicity – Repeated exposure	Category 2:2226-96-2 (organ = spleen、liver, source: Registered substances (ECHA)), 5117-12-4 (organ = ---, source: GHS Hazardous Chemical Information List) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List), 5888-33-5 (source: Registered substances (ECHA)) No data:Confidential (source: None)
	5117-12-4 >= 10% Classification result = Category 2
Aspiration hazard	Unable to classify due to insufficient data.

Section 12 – Ecological Information

Hazardous to the Aquatic Environment – Acute Toxicity	Category 1:5888-33-5 (source: Registered substances (ECHA)) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List), 2226-96-2 (source: Registered substances (ECHA)), 5117-12-4 (source: GHS Hazardous Chemical Information List) No data:Confidential (source: None)
	(M factor x 10 x Category 1) + Category 2 >= Concentration limit(25%). Classification result = Category 2.

Hazardous to the Aquatic Environment - Chronic Toxicity	Category 1:5888-33-5 (source: Registered substances (ECHA)) Classification not possible:75980-60-8 (source: GHS Hazardous Chemical Information List), 2226-96-2 (source: Registered substances (ECHA)), 5117-12-4 (source: GHS Hazardous Chemical Information List) 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.

Section 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.

Section 14 - Transport Information

International regulations

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

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

ADG

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

*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.

Section 15 - Regulatory Information

No main regulation

Component Analysis - Inventory

Isobornyl acrylate (5888-33-5)

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

4-(1-oxo-2-propenyl)-morpholine (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

4-Hydroxy-2,2,6,6-tetramethylpiperidinoxyl (2226-96-2)

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

Section 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.