Section 1 – Identification

Product identifier	MH-100 ink White
Product code	MH100-W-BD / MH100-W-BA
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 phone 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
Carcinogenicity Category 2
Reproductive toxicity Category 2
Specific target organ toxicity (single exposure) Category 3 (respiratory tract irritation)
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
H351 Suspected of causing cancer

H361 Suspected of damaging fertility or the unborn child (state specific effect if known)
H335 May cause respiratory irritation
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) Use only outdoors or in a well-ventilated area(P271) Contaminated work clothing should not be allowed out of the workplace.(P272) Avoid release to the environment(P273) Wear protective gloves.(P280) Wear eye protection and face protection.(P280) Use personal protective equipment as required.(P281)
Response	IF ON SKIN: Wash with plenty of soap and water(P302+P352) IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.(P304+P340) 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) Call a POISON CENTER/doctor. If you feel unwell.(P312) 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 in a well-ventilated place. Keep container tightly closed.(P403+P233) 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
Tripropylene glycol diacrylate	25–35%	Unknown	42978-66-5
Acrylic monomer	20–25%	Unknown	Confidential
Morpholine, 4-(1-oxo-2-propenyl)-	15–25%	Unknown	5117-12-4
Oligomer	15–25%	Unknown	Confidential
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	1–10%	Unknown	75980-60-8
Titanium dioxide	1–5%	TiO2	13463-67-7

Section 4 – First Aid Measures

In case of inhalation	Call a POISON CENTER or doctor / physician 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	Immediately call a POISON CENTRE or doctor/physician. 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	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF exposed or concerned: Get medical advice and attention. Induce vomiting.

Section 5 – Fire Fighting Measures

Suitable extinguishing equipment	Dry chemical, alcohol-resistant foam, CO2, sand, water spray.
Not suitable extinguishing media	Cylindric water.
Specific hazards arising from the chemical	Risk of producing harmful gases such as carbon monoxide and sulfur oxides. 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: 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.

Section 8 – Exposure controls and personal protection

Control parameters

	ACGIH (TLV)	OSHA (PEL)	Occupational Exposure Standards
Titanium dioxide	TWA 10 mg/m3,STEL –	15 mg/m3 TWA (total dust)	10 mg/m3 TWA (containing no asbestos and <1% crystalline silica, inhalable dust)

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 electrocity.

Individual protection measures, for example personal protective equipment (PPE)

Eye and face protection: Wear eye protection/face 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	white
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	64±3mPa・s(25℃)

Section 10 - Stability and Reactivity

Reactivity	No reactivity hazard is expected.
Chemical stability	Stable under normal conditions of use.
Possibility of hazardous reactions	Will not polymerize.
Conditions to avoid	Avoid flames, sparks, and other sources of ignition. Avoid contact with incompatible materials.
Incompatible materials	acids, bases, metals, oxidizing materials, metal oxides
Hazardous decomposition products	oxides of carbon, oxides of nitrogen, oxides of titanium

Section 11 - Toxicological Information

Acute toxicity (Oral)	Category 4:5117-12-4 (converted value = 500mg/kg, source: GHS Hazardous Chemical Information List) Not classified:13463-67-7 (source: NITE), 42978-66-5 (source: NITE) Not applicable:75980-60-8 (source: NITE) No data:Confidential (source: None)
Acute toxicity (Dermal)	Calculation result = 1300mg/kg. Classification result = Category 4. Not classified:13463-67-7 (source: NITE), 42978-66-5 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:Confidential (source: None)
	Contains substance of unknown toxicity. Changed from Not classified to

	Classification not possible.
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)	Not classified:13463-67-7 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:Confidential (source: None), 42978-66-5 (source: None)
	Contains substance of unknown toxicity. Changed from Not classified to Classification not possible.
Skin corrosion/ Irritation	Category 2:42978-66-5 (source: GHS Hazardous Chemical Information List) Not classified:13463-67-7 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) 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: GHS Hazardous Chemical Information List) Category 2:42978-66-5 (source: GHS Hazardous Chemical Information List) Category 2B:13463-67-7 (source: NITE) Not applicable:75980-60-8 (source: NITE) 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), 42978-66-5 (source: GHS Hazardous Chemical Information List) Not applicable:75980-60-8 (source: NITE) No data:13463-67-7 (source: None), Confidential (source: None)
	42978-66-5 >= 1% Classification result = Category 1
Germ cell mutagenicity	Not classified:13463-67-7 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:Confidential (source: None), 42978-66-5 (source: None)
	Contains substance of unknown toxicity. Changed from Not classified to Classification not possible.
Carcinogenicity	Category 2:13463-67-7 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE)

	No data:Confidential (source: None), 42978-66-5 (source: None)
Reproductive toxicity	13463-67-7 >= 1% Classification result = Category 2 Category 2:75980-60-8 (source: GHS Hazardous Chemical Information List) Not applicable:5117-12-4 (source: NITE) No data:13463-67-7 (source: None), Confidential (source: None), 42978-66-5 (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	Category 3:42978-66-5 (organ = respiratory tract irritation, source: GHS Hazardous Chemical Information List) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:13463-67-7 (source: None), Confidential (source: None)
Specific target organ toxicity - Repeated exposure	Sum of Category 3(respiratory tract irritation) Concentration limit = 20%. Classification result = Category 3(respiratory tract irritation). Category 2:5117-12-4 (organ = ---, source: GHS Hazardous Chemical Information List) Not applicable:75980-60-8 (source: NITE) No data:13463-67-7 (source: None), Confidential (source: None), 42978-66-5 (source: None)
Aspiration hazard	5117-12-4 >= 10% Classification result = Category 2 Unable to classify due to insufficient data.

Section 12 - Ecological Information

Hazardous to the Aquatic Environment - Acute Toxicty	Category 2:42978-66-5 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:13463-67-7 (source: None), Confidential (source: None)
Hazardous to the Aquatic Environment - Chronic Toxicity	(M factor x 10 x Category 1) + Category 2 >= Concentration limit(25%). Classification result = Category 2. Category 2:42978-66-5 (source: GHS Hazardous Chemical Information List) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:13463-67-7 (source: None), 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

High Volume Industrial Chemicals List — High Volume Industrial Chemicals List

Component Analysis - Inventory

Tripropylene glycol diacrylate (42978-66-5)

TSCA - United States	ENCS - Japan	KECI - Korea	IECSC - China	DSL - Canada	PICCS - Philippines	AICS - Australia	EINECS - European Union	TCSI - Taiwan	NZIoC - New Zealand
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Morpholine, 4-(1-oxo-2-propenyl)- (5117-12-4)

TSCA - United	ENCS - Japan	KECI - Korea	IECSC - China	NDSL - Canada	PICCS - Philippines	AICS - Australia	ELINCS - European Union	TCSI - Taiwan	NZIoC - New

States									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 - Korea	IECSC - China	DSL - Canada	PICCS - Philippines	AICS - Australia	EINECS - 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 - Korea	IECSC - China	DSL - Canada	PICCS - Philippines	AICS - Australia	EINECS - 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.