

Safety Data Sheets

1. IDENTIFICATION

Product Identifier	MH-100 ink Clear
Product Description	MH100-CL-BD / MH100-CL-BA
Recommended use and restriction use	UV curable 3D model 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. 31 Kaki Bukit Road 3 Singapore 417818 TechLink #02-03 +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 2A Sensitization – skin Category 1 Reproductive toxicity Category 2 Specific target organ toxicity (single exposure) Category 3 (respiratory tract irritation)
Environmental Hazards	Hazard to the aquatic environment (long-term hazard) Category 2

GHS LABEL ELEMENTS

Pictograms



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 (state specific effect if known) H335 May cause respiratory irritation 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)

Safety Data Sheets

Response	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) 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) Call a POISON CENTER/doctor. If you feel unwell.(P312) 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 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)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances or mixtures	Mixtures		
Chemical name	Contents	Chemical Formula	CAS RN
Acrylic monomer	35-45%	Unknown	Confidential
Tripropylene glycol diacrylate	25-35%	Unknown	42978-66-5
Oligomer	20-30%	Unknown	Confidential
Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide	1-10%	Unknown	75980-60-8

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	IF IN EYES: Rinse cautiously with water for several minutes. Remove

Safety Data Sheets

In case of ingestion

contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF exposed or concerned: Get medical advice and attention.

Rinse mouth.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF exposed or concerned: Get medical advice and attention.

Induce vomiting.

5. FIRE-FIGHTING MEASURES

Suitable fire-extinguishing media

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 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

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

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.

Safety Data Sheets

Storage

Suitable storage conditions Store locked up.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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	clear to light yellow
Odor	unique odor
Odor threshold	No data available
pH	No data available
Melting point	No data available
Boiling point	No data available
Flash point	93°C 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	1.07(25°C)
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	58 ± 3mPa · s(25°C)

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.

Safety Data Sheets

Incompatible materials
Hazardous decomposition products

Avoid contact with incompatible materials.
acids, bases, metals, oxidizing materials, metal oxides
oxides of carbon, oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

Acute toxicity (Oral)

Not classified:42978-66-5 (source: NITE)
Not applicable:75980-60-8 (source: NITE)
No data:Confidential (source: None)

Acute toxicity (Dermal)

Contains substance of unknown toxicity. Changed from Not classified to Classification not possible.
Not classified:42978-66-5 (source: NITE)
Not applicable:75980-60-8 (source: NITE)
No data:Confidential (source: None)

Acute toxicity (Inhalation : Gases)
Acute toxicity (Inhalation : Vapours)
Acute toxicity (Inhalation : dust/mist)
Skin corrosion/ Irritation

Contains substance of unknown toxicity. Changed from Not classified to Classification not possible.
Does not fall under gas based on GHS definitions.
Unable to classify due to insufficient data.
Unable to classify due to insufficient data.
Category 2:42978-66-5 (source: 1272/2008/EC)
Not applicable:75980-60-8 (source: NITE)
No data:Confidential (source: None)

Serious eye damage/ irritation

Sum of Category 2 Concentration limit = 10%. Classification result = Category 2.
Category 2:42978-66-5 (source: 1272/2008/EC)
Not applicable:75980-60-8 (source: NITE)
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 1:42978-66-5 (source: 1272/2008/EC)
Not applicable:75980-60-8 (source: NITE)
No data:Confidential (source: None)

Germ cell mutagenicity
Carcinogenicity
Reproductive toxicity

42978-66-5 \geq 1% Classification result = Category 1
Unable to classify due to insufficient data.
Unable to classify due to insufficient data.
Category 2:75980-60-8 (source: 1272/2008/EC)
No data:Confidential (source: None), 42978-66-5 (source: None)

Safety Data Sheets

Reproductive toxicity, effects on or via lactation Specific target organ Toxicity – Single Exposure	75980-60-8 >= 3% Classification result = Category 2 Unable to classify due to insufficient data. Category 3:42978-66-5 (organ = respiratory tract irritation, source: 1272/2008/EC) Not applicable:75980-60-8 (source: NITE) No data:Confidential (source: None)
Specific target organ toxicity – Repeated Exposure Aspiration hazard	Sum of Category 3(respiratory tract irritation) Concentration limit = 20%. Classification result = Category 3(respiratory tract irritation). Unable to classify due to insufficient data. Unable to classify due to insufficient data.

12. ECOLOGICAL INFORMATION

Hazardous to the Aquatic Environment – Acute Toxicity	Category 2:42978-66-5 (source: NITE) Not applicable:75980-60-8 (source: NITE) No data: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. (M factor x 100 x Category 1) + (10 x Category 2) + Category 3 >= Concentration limit(25%). Contains substance of unknown toxicity. Changed from "Not classified" to "Classification not possible". Category 2:42978-66-5 (source: 1272/2008/EC) Not applicable:75980-60-8 (source: NITE) 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

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

14. TRANSPORT INFORMATION

International regulations

Safety Data Sheets

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

No main regulation

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

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

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.