

Safety Data Sheets

1. IDENTIFICATION

Product Identifier	MH-100 ink Yellow
Product Description	MH100-Y-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	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 (single exposure) Category 3 (respiratory tract irritation) Specific target organ toxicity (repeated exposure) Category 2 Hazard to the aquatic environment (long-term hazard) Category 2
Environmental Hazards	

GHS LABEL ELEMENTS

Pictograms



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 (state specific effect if known)
H335 May cause respiratory irritation
H373 May cause damage to organs through prolonged or repeated exposure
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements

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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)
Response	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) 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+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
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

4. FIRST-AID MEASURES

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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.

5. FIRE-FIGHTING MEASURES

Suitable fire-extinguishing media	Dry chemical, alcohol-resistant foam, CO ₂ , 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

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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

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State	Liquid
Color	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

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Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	68±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. Avoid contact with incompatible materials.
Incompatible materials	acids, bases, metals, oxidizing materials, metal oxides
Hazardous decomposition products	oxides of carbon, oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

Acute toxicity (Oral)	<p>Category 4:5117-12-4 (converted value = 500mg/kg, source: 1272/2008/EC)</p> <p>Not classified:42978-66-5 (source: NITE)</p> <p>Not applicable:75980-60-8 (source: NITE)</p> <p>No data:Confidential (source: None)</p>
Acute toxicity (Dermal)	<p>Calculation result = 1250mg/kg. Classification result = Category 4.</p> <p>Not classified:42978-66-5 (source: NITE)</p> <p>Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE)</p> <p>No data:Confidential (source: None)</p>
Acute toxicity (Inhalation : Gases)	Contains substance of unknown toxicity. Changed from Not classified to Classification not possible.
Acute toxicity (Inhalation : Vapours)	Does not fall under gas based on GHS definitions.
Acute toxicity (Inhalation : dust/mist)	Unable to classify due to insufficient data.
Skin corrosion/ Irritation	<p>Unable to classify due to insufficient data.</p> <p>Category 2:42978-66-5 (source: 1272/2008/EC)</p> <p>Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE)</p> <p>No data:Confidential (source: None)</p>
Serious eye damage/ irritation	<p>Sum of Category 2 Concentration limit = 10%. Classification result = Category 2.</p> <p>Category 1:5117-12-4 (source: 1272/2008/EC)</p> <p>Category 2:42978-66-5 (source: 1272/2008/EC)</p> <p>Not applicable:75980-60-8 (source: NITE)</p> <p>No data:Confidential (source: None)</p>
	<p>Sum of Eye category 1 Concentration limit = 3%. Classification result =</p>

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Respiratory Sensitization	Category 1. Unable to classify due to insufficient data.
Skin Sensitization	Category 1:5117-12-4 (source: 1272/2008/EC), 42978-66-5 (source: 1272/2008/EC) Not applicable:75980-60-8 (source: NITE) No data:Confidential (source: None)
Germ cell mutagenicity	42978-66-5 >= 1% Classification result = Category 1 Unable to classify due to insufficient data.
Carcinogenicity	Unable to classify due to insufficient data.
Reproductive toxicity	Category 2:75980-60-8 (source: 1272/2008/EC) Not applicable:5117-12-4 (source: NITE) No data: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: 1272/2008/EC) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data: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: 1272/2008/EC) Not applicable:75980-60-8 (source: NITE) No data: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.

12. ECOLOGICAL INFORMATION

Hazardous to the Aquatic Environment – Acute Toxicity	Category 2:42978-66-5 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:Confidential (source: None)
Hazardous to the Aquatic Environment	(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)

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- Chronic Toxicity

Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE)
 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.

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

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

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

TSCA	ENCS	KECI	IECSC -	NDSL -	PICCS -	AICS -	ELINCS	TCSI	NZIoC

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- United States	- Japan	- Korea	China	Canada	Philippines	Australia	- European Union	- Taiwan	- 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

Other data

EU CLP Regulation, AnnexVI

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.