

# Safety Data Sheets

## Section 1 – Identification

Product identifier	MH-100 ink Black
Product code	MH100-K-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  
 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  
 H361 Suspected of damaging fertility or the unborn child (state specific effect if known)

# Safety Data Sheets

	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

## Safety Data Sheets

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
Carbon black	<1%	Unknown	1333-86-4

### 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, CO <sub>2</sub> , 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 material wash thoroughly after handling

## Safety Data Sheets

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
Carbon black	TWA 3 mg/m <sup>3</sup> (I),STEL –	3.5 mg/m <sup>3</sup> TWA	3 mg/m <sup>3</sup> TWA

#### 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

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

black

#### Odor

unique odor

#### Odor threshold

No data available

#### pH

No data available

#### Melting point/freezing point

No data available

## Safety Data Sheets

Initial boiling point and boiling range	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	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	62±3mPa·s(25°C)

### 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

### Section 11 – Toxicological Information

Acute toxicity (Oral)	<p>Category 4:5117-12-4 (converted value = 500mg/kg, source: GHS Hazardous Chemical Information List)</p> <p>Not classified:1333-86-4 (source: NITE), 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 = 1259.5mg/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:1333-86-4 (source: None), 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	Unable to classify due to insufficient data. Category 2:42978-66-5 (source: GHS Hazardous Chemical Information List)

## Safety Data Sheets

	Not classified:1333-86-4 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:Confidential (source: None)
Serious eye damage/ irritation	Sum of Category 2 Concentration limit = 10%. Classification result = Category 2. Category 1:5117-12-4 (source: GHS Hazardous Chemical Information List) Category 2:42978-66-5 (source: GHS Hazardous Chemical Information List) Not classified:1333-86-4 (source: NITE) Not applicable:75980-60-8 (source: NITE) No data:Confidential (source: None)
Respiratory Sensitization Skin Sensitization	Sum of Eye category 1 Concentration limit = 3%. Classification result = Category 1. Unable to classify due to insufficient data. 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:1333-86-4 (source: None), Confidential (source: None)
Germ cell mutagenicity Carcinogenicity	42978-66-5 $\geq$ 1% Classification result = Category 1 Unable to classify due to insufficient data. Category 2:1333-86-4 (source: NITE) Not applicable:75980-60-8 (source: NITE), 5117-12-4 (source: NITE) No data:Confidential (source: None), 42978-66-5 (source: None)
	Substances classified as hazardous are below the concentration limit. Contains substance of unknown toxicity. Changed from Not classified to Classification not possible.
Reproductive toxicity	Ingredients not contributing to classification: 1333-86-4 (category = Category 2, source: NITE) Category 2:75980-60-8 (source: GHS Hazardous Chemical Information List) Not applicable:5117-12-4 (source: NITE) No data:1333-86-4 (source: None), Confidential (source: None), 42978-66-5 (source: None)
Reproductive toxicity, effects on or via	75980-60-8 $\geq$ 3% Classification result = Category 2 Unable to classify due to insufficient data.

## Safety Data Sheets

lactation

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:1333-86-4 (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 1:1333-86-4 (organ = respiratory apparatus, source: NITE)

Category 2:5117-12-4 (organ = ---, source: GHS Hazardous Chemical Information List)

Not applicable:75980-60-8 (source: NITE)

No data:Confidential (source: None), 42978-66-5 (source: None)

Aspiration hazard

5117-12-4  $\geq$  10% Classification result = Category 2

Unable to classify due to insufficient data.

### Section 12 – Ecological Information

Hazardous to the Aquatic Environment – Acute Toxicity

Category 2:42978-66-5 (source: NITE)

Not classified:1333-86-4 (source: NITE)

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  $\geq$  Concentration limit(25%). Classification result = Category 2.

Hazardous to the Aquatic Environment – Chronic Toxicity

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:1333-86-4 (source: None), Confidential (source: None)

(M factor x 10 x Category 1) + Category 2  $\geq$  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.

# Safety Data Sheets

## 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 States	ENCS – Japan	KECI – Korea	IECSC – China	NDSL – Canada	PICCS – Philippines	AICS – Australia	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 – 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

#### Carbon black (1333-86-4)



# Safety Data Sheets

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

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.