

## Safety Data Sheets

### SECTION 1: Identification

**Product identifier****Material Name**

IJ Primer PR-100

**Product Description**

PR100-Z-BA / SPC-0731 / SPC-0732

**Product Use**

IJ Ink Primer of UV Cure ink

**Restrictions on Use**

Use in accordance with supplier's recommendations.

**Details of the supplier of the safety data sheet**

Mimaki Engineering Co., Ltd

2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 Japan

Phone: +81-268-64-2413

**Importer / Distributor Information**

MIMAKI SINGAPORE PTE. LTD.

31 Kaki Bukit Road 3 Singapore 417818 TechLink #02-03

Phone: +65-6508-2789

**Emergency telephone number**

+65 3165 2217 (within Singapore only)

+65 3158 1074

### SECTION 2: Hazards identification

**Singapore Standard SS 586-2:2014**

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2A

Skin Sensitization - Category 1A

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 3

Specific Target Organ Toxicity - Repeated Exposure - Category 1 ( Central Nervous System , blood , respiratory system , thyroid gland )

Hazardous to the Aquatic Environment - Acute - Category 1

Hazardous to the Aquatic Environment - Chronic - Category 1

**Label elements****Hazard symbols****Signal word**

Danger

**Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

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- H361 Suspected of damaging fertility or the unborn child.
- H335 May cause respiratory irritation.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

### Precautionary statements

#### Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 Wash thoroughly after handling.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P270 Do not eat, drink or smoke when using this product.
- P273 Avoid release to the environment.

#### Response

- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P304+P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash before reuse.
- P312 Call a POISON CENTER or doctor if you feel unwell.
- P391 Collect spillage.

#### Storage

- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.

#### Disposal

- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Statement(s) of Unknown Aquatic Toxicity

- 46% of the mixture consists of ingredient(s) of unknown acute aquatic toxicity.
- 46% of the mixture consists of ingredient(s) of unknown chronic aquatic toxicity.

#### Potential Environmental Effects

Very toxic to aquatic life with long lasting effects.

#### Other Hazards Which Do Not Result in Classification

None known.

## SECTION 3: Composition / information on ingredients

| CAS          | Component Name   | Percent |
|--------------|--|---------|
| 5888-33-5    | 2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- | 40-50   |
| Trade Secret | Acryl acid ester   | 30-40   |
| Trade Secret | Initiator  | 5-15    |

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|              |                       |       |
|--------------|-----------------------|-------|
| 103-11-7     | 2-Ethylhexyl acrylate | 5-10  |
| Trade Secret | Additive              | 0.1-1 |

**Impurities and stabilizing additives contributing to the GHS Classification**  
None

## SECTION 4: First aid measures

**Inhalation**

Remove person to fresh air and keep comfortable for breathing. Give artificial respiration if not breathing. Call a POISON CENTER or doctor/physician.

**Skin contact**

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use.

**Eye contact**

Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation or pain persists after fifteen minutes of eye irrigation, seek medical attention.

**Ingestion**

If swallowed, get medical attention. If vomiting occurs, keep head lower than hips to help prevent aspiration.

**Most Important Symptoms/Effects**

**Acute**

skin irritation, eye irritation, allergic skin reaction, respiratory tract irritation

**Delayed**

allergic skin reaction, reproductive effects, central nervous system damage, blood disorders, respiratory system damage, thyroid effects

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically and supportively.

## SECTION 5: Firefighting measures

**Suitable extinguishing media**

carbon dioxide, regular dry powder, regular dry chemical, water spray, alcohol resistant foam

**Unsuitable Extinguishing Media**

Do not scatter spilled material with high-pressure water streams.

**Special Hazards Arising from the Chemical**

Irritating fumes and gases may be released upon thermal processing or during combustion.

**Hazardous combustion products**

oxides of carbon

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Avoid inhalation of material or combustion by-products.

**Special Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear personal protective clothing and equipment, see Section 8.

**Environmental precautions**

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Avoid release to the environment.

### Methods and Materials for Containment and Cleaning Up

Eliminate all ignition sources if safe to do so. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

## SECTION 7: Handling and storage

### Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapor or mist. Use only outdoors or in a well-ventilated area. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

### Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

### Incompatible Materials

oxidizing materials, acids, bases, peroxides

## SECTION 8: Exposure controls/personal protection

### Exposure Guidelines

#### Component Exposure Limits

Singapore and ACGIH have not developed exposure limits for any of this product's components.

#### Biological limit value

There are no biological limit values for any of this product's components.

#### Engineering controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

#### Eye/face protection

Wear splash resistant safety goggles with a faceshield.

#### Protective Clothing

Wear appropriate chemical resistant clothing.

#### Glove Recommendations

Wear appropriate chemical resistant gloves.

#### Protective Materials

Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Respiratory Protection

Consult with a health and safety professional for specific respirators appropriate for your use.

## SECTION 9: Physical and chemical properties

|                |                          |                |                     |
|----------------|--------------------------|----------------|---------------------|
| Appearance     | Pale yellow clear liquid | Physical State | liquid              |
| Odor           | unique odor              | Color          | Pale yellow , clear |
| Odor Threshold | Not available            | pH             | Not available       |

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|                          |                        |  |               |
|--------------------------|------------------------|--|---------------|
| Melting Point            | Not available          | Boiling Point                          | Not available |
| Boiling Point Range      | Not available          | Freezing point                         | Not available |
| Evaporation Rate         | Not available          | Flammability (solid, gas)              | Not available |
| Autoignition Temperature | Not available          | Flash Point                            | >93 °C        |
| Lower Explosive Limit    | Not available          | Decomposition temperature              | Not available |
| Upper Explosive Limit    | Not available          | Vapor Pressure                         | Not available |
| Vapor Density (air=1)    | Not available          | Specific Gravity (water=1)             | 1.03 (25 °C ) |
| Water Solubility         | Not available          | Partition coefficient: n-octanol/water | Not available |
| Viscosity                | 19 ±3 mPa · s (25 °C ) | Kinematic viscosity                    | Not available |
| Solubility (Other)       | Not available          | Density                                | Not available |
| Physical Form            | liquid                 | Molecular Weight                       | Not available |

### 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.

#### Materials to Avoid (Incompatibilities)

oxidizing materials, acids, bases, peroxides

#### Hazardous decomposition products

oxides of carbon

### SECTION 11: Toxicological information

#### Information on Likely Routes of Exposure

##### Inhalation:

irritation, headache, respiratory system damage

##### Skin contact

irritation, allergic skin reaction

##### Eye contact

irritation

##### Ingestion

vomiting, nausea

#### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

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**2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- (5888-33-5)**

Oral LD50 Rat 4890 mg/kg

**2-Ethylhexyl acrylate (103-11-7)**

Oral LD50 Rat 4435 mg/kg

Dermal LD50 Rabbit 7522 mg/kg

**Acute Toxicity Estimate**

|        |              |
|--------|--------------|
| Dermal | > 2000 mg/kg |
| Oral   | > 2000 mg/kg |

**Immediate Effects**

skin irritation, eye irritation, allergic skin reaction, respiratory tract irritation

**Delayed Effects**

allergic skin reaction, reproductive effects, central nervous system damage, blood disorders, respiratory system damage, thyroid effects

**Irritation/Corrosivity Data**

skin irritation, eye irritation

**Respiratory Sensitization**

No information available for the product.

**Dermal Sensitization**

May cause an allergic skin reaction.

**Carcinogenicity**

**Component Carcinogenicity**

|                              |  |
|------------------------------|--|
| <b>2-Ethylhexyl acrylate</b> | <b>103-11-7</b>                                  |
| IARC:                        | Monograph 60 [1994] (Group 3 (not classifiable)) |

**Mutagenic Data**

No information available for the product.

**Reproductive Effects Data**

Available data characterizes components of this product as reproductive hazards.

**Specific Target Organ Toxicity - Single Exposure**

respiratory tract

**Specific Target Organ Toxicity - Repeated Exposure**

central nervous system, blood, respiratory system, thyroid gland

**Aspiration hazard**

Not expected to be an aspiration hazard.

**Medical Conditions Aggravated by Exposure**

No information available for the product.

**SECTION 12: Ecological information**

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

**Component Analysis - Aquatic Toxicity**

|                              |   |
|------------------------------|---|
| <b>2-Ethylhexyl acrylate</b> | <b>103-11-7</b>   |
| Algae:                       | EC50 72 h Desmodesmus subspicatus 44 mg/L IUCLID ; EC50 96 h Desmodesmus subspicatus 47 mg/L IUCLID |

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|               |   |
|---------------|---|
| Invertebrate: | EC50 48 h Daphnia magna 17.45 mg/L IUCLID |
|---------------|---|

**Persistence**

No information available for the product.

**Bioaccumulative potential**

No information available for the product.

**Mobility**

No information available for the product.

**Other adverse effects**

No additional information is available.

### SECTION 13: Disposal considerations

**Disposal Methods**

Dispose in accordance with all applicable regulations.

**Component waste information**

There is no applicable waste information for this product's components.

**Contaminated packaging disposal**

Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

### SECTION 14: Transport information

**IATA Information:**

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , ( Contains: 2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- )

Hazard Class: 9

UN#: UN3082

Packing Group: III

Required Label(s): 9

Special Provision : A197 \*1

**ICAO Information:**

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , ( Contains: 2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- )

Hazard Class: 9

UN#: UN3082

Packing Group: III

Required Label(s): 9

**IMDG Information:**

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , ( Contains: 2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- )

Hazard Class: 9

UN#: UN3082

Packing Group: III

Required Label(s): 9

Special Provision : 2.10.2.7 \*1

**Marine Pollutants (IMDG)**

Yes

**International Bulk Chemical Code**

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This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

|                              |                 |
|------------------------------|-----------------|
| <b>2-Ethylhexyl acrylate</b> | <b>103-11-7</b> |
| IBC Code:                    | Category Y      |

**Special precautions**

No information available for the product.

\*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**

**Singapore Regulations**

**List of Hazardous Substances**

No information was found for the substance(s) on the List of Hazardous Substances.

**Poisons List**

No information was found for the substance(s) on the List of Hazardous Substances.

**Hazardous Substance Transport Quantities**

None of this product's components are on the list.

**Maritime and Port Authority**

This product contains no components identified on Singapore's Maritime and Port Authority - Dangerous Goods.

**Arms and Explosives Act**

None of this product's components are on the list.

**Schedule of Chemical Weapons**

None of this product's components are on the list.

**Misuse of Drugs Act**

None of this product's components are on the list.

**Petroleum and Flammable Materials**

This product contains no components identified on Singapore's Petroleum and Flammable Materials.

**Strategic Goods Control**

This product contains no components identified on Singapore's Strategic Goods Control.

**Toxic Industrial Wastes**

This product contains no components identified on Singapore's Toxic Industrial Wastes.

**Component Analysis - Inventory**

**2-Propenoic acid, 1,7,7-trimethylbicyclo[2.2.1]hept-2-yl ester, exo- (5888-33-5)**

|     |     |     |     |     |           |           |                   |                   |                |     |     |    |     |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|----------------|-----|-----|----|-----|
| US  | CA  | EU  | AU  | PH  | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN  | NZ  | MX | TW  |
| Yes | DSL | EIN | Yes | Yes | Yes       | Yes       | Yes               | No                | No             | Yes | Yes | No | Yes |

**Acryl acid ester (Trade Secret)**

|     |     |     |     |    |           |           |                   |                   |                |     |     |    |     |
|-----|-----|-----|-----|----|-----------|-----------|-------------------|-------------------|----------------|-----|-----|----|-----|
| US  | CA  | EU  | AU  | PH | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN  | NZ  | MX | TW  |
| Yes | NSL | EIN | Yes | No | Yes       | No        | Yes               | No                | No             | Yes | Yes | No | Yes |



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## Initiator (Trade Secret)

| US  | CA  | EU  | AU  | PH  | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN  | NZ  | MX  | TW  |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|----------------|-----|-----|-----|-----|
| Yes | DSL | EIN | Yes | Yes | Yes       | Yes       | Yes               | No                | No             | Yes | Yes | Yes | Yes |

## 2-Ethylhexyl acrylate (103-11-7)

| US  | CA  | EU  | AU  | PH  | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN  | NZ  | MX  | TW  |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|----------------|-----|-----|-----|-----|
| Yes | DSL | EIN | Yes | Yes | Yes       | No        | Yes               | No                | No             | Yes | Yes | Yes | Yes |

## Additive (Trade Secret)

| US | CA | EU | AU | PH | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN | NZ | MX | TW |
|----|----|----|----|----|-----------|-----------|-------------------|-------------------|----------------|----|----|----|----|
| No | No | No | No | No | No        | No        | No                | No                | No             | No | No | No | No |

## SECTION 16: Other information

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery



Product Name: IJ Primer PR-100  
SDS No. 037-O052149  
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Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); WHMIS - Workplace Hazardous Materials Information System (Canada).

### **Other Information**

#### **Disclaimer:**

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.