

Safety Data Sheets

SECTION 1: Identification

Product identifier**Material Name**

IJ Primer PR-200

Product Description

PR200-Z-22 / PR200-Z-60 / PR200-Z-BA / PR200-Z-B2

Product Use

IJ Ink Primer of UV Cure

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

Emergency Phone #: +81-268-64-2281

SECTION 2: Hazards identification

Singapore Standard SS 586-2:2014

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2

Skin Sensitization - Category 1

Carcinogenicity - Category 2

Reproductive Toxicity - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 3

Hazardous to the Aquatic Environment - Acute - Category 1

Hazardous to the Aquatic Environment - Chronic - Category 1

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

Warning

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H361 Suspected of damaging fertility or the unborn child.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements**Prevention**

Safety Data Sheets

- 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.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
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.
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

- 35% of the mixture consists of ingredient(s) of unknown acute aquatic toxicity.
30% of the mixture consists of ingredient(s) of unknown chronic aquatic toxicity.

Other Hazards Which Do Not Result in Classification

None known.

SECTION 3: Composition / information on ingredients

CAS	Component Name	Percent
Trade Secret	Aliphatic monomer A	40-50
Trade Secret	Acryl type oligomer	25-35
Trade Secret	Aromatic monomer A	10-15
Mixture	Aromatic monomer B	10-15
Trade Secret	Photopolymerization initiator	<10
Trade Secret	Others	<10
Mixture	Aliphatic monomer B	<1

Impurities and stabilizing additives contributing to the GHS Classification

None

SECTION 4: First aid measures

Safety Data Sheets

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, cancer, reproductive 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, oxides of phosphorus

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

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

Safety Data Sheets

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. 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.

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 cool. Keep separated from incompatible substances.

Incompatible Materials

Acids, bases, oxidizing materials

SECTION 8: Exposure controls/personal protection

Exposure Guidelines

Component Exposure Limits

Aromatic monomer B	Mixture
Singapore:	0.1 ppm PEL ; 0.6 mg/m3 PEL (related to Phenyl glycidyl ether)
ACGIH:	0.1 ppm TWA (related to Phenyl glycidyl ether)
	Skin - potential significant contribution to overall exposure by the cutaneous route (related to Phenyl glycidyl ether)

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.

Further information

Observe good hygiene and safety practices when handling this product.

SECTION 9: Physical and chemical properties

Appearance	yellow liquid	Physical State	liquid
Odor	faint odor	Color	yellow

Safety Data Sheets

Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	181 °C
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not available
Autoignition Temperature	Not available	Flash Point	106 °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)	Not available
Water Solubility	Not available	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	1.1 g/cm ³
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. Avoid contact with incompatible materials.

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)

Acids, bases, oxidizing materials

Hazardous decomposition products

Oxides of carbon, oxides of phosphorus

SECTION 11: Toxicological information

Information on Likely Routes of Exposure

Inhalation:

irritation, headache, cancer, reproductive effects, liver damage, respiratory system damage

Skin contact

irritation, allergic skin reaction

Eye contact

irritation

Ingestion

vomiting, nausea

Component Analysis - LD50/LC50

Safety Data Sheets

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

Aliphatic monomer A (Trade Secret)

Oral LD50 Rat 4890 mg/kg

Acute Toxicity Estimate

Oral	> 2000 mg/kg
------	--------------

Immediate Effects

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

Delayed Effects

allergic skin reaction, cancer, reproductive 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

Aromatic monomer B	Mixture
ACGIH:	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (related to Phenyl glycidyl ether)
IARC:	Monograph 71 [1999] ; Monograph 47 [1989] (related to Phenyl glycidyl ether) (Group 2B (possibly carcinogenic to humans))
DFG:	Category 2 (considered to be carcinogenic for man) (related to Phenyl glycidyl ether)
OSHA:	Present (related to Phenyl glycidyl ether)
NIOSH:	potential occupational carcinogen (related to Phenyl glycidyl ether)

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

No target organs identified.

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

Safety Data Sheets

No LOLI ecotoxicity data are available for this product's components.

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: Aliphatic monomer A)

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: Aliphatic monomer A)

Hazard Class: 9

UN#: UN3082

Packing Group: III

Required Label(s): 9

IMDG Information:

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (Contains: Aliphatic monomer A)

Hazard Class: 9

UN#: UN3082

Packing Group: III

Required Label(s): 9

Special Provision : 2.10.2.7 *1

Component Marine Pollutants (IMDG)

Not a marine pollutant.

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Safety Data Sheets

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

Aliphatic monomer A (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	No	Yes

Acryl type oligomer (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	No	No	Yes	Yes	Yes	No	No	Yes	No	Yes	No	No	Yes

Aromatic monomer A (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
----	----	----	----	----	-----------	-----------	-------------------	-------------------	----------------	----	----	----	----

Safety Data Sheets

Yes	NSL	EIN	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	Yes
-----	-----	-----	-----	-----	-----	-----	----	-----	----	-----	-----	----	-----

Aromatic monomer B (Mixture)

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

Photopolymerization 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	ELN	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes

Others (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

Aliphatic monomer B (Mixture)

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

Safety Data Sheets

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 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.