

Material Safety Data Sheet

IJR-4000 FW100

TAIYO INK MFG. CO., (KOREA) LTD

MATERIAL SAFETY DATA SHEET

제EUM-U-005

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SECTION 1 IDENTIFICATION	
1. PRODUCT	IJR-4000 FW100
2. GENERAL CHEMICAL PROPERTIES	UV CURING MARKING INK FOR PCB
3. HAZARD CLASSIFICATION	IRRITATIVE MATERIAL
4. USE	INK JET MARKING INK FOR PCB
5. MANUFACTURE	TAIYO INK MFG. CO., (KOREA) LTD 1058-8,SINGIL-DONG, DANWON-GU, ANSAN-CITY KYUNGKI-DO REPUBLIC OF KOREA (TEL :82-31-491-9250)
6. DISTRIBUTOR	
7. WRITING PART	RESEARCH INSTITUTE OF TAIYO INK MFG. CO., (KOREA) LTD.
8. ENACTMENT DATE	June 08, 2012
9. REVISION DATE	June 08, 2012 (Rev. 0)

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS		
INGREDIENTS	CAS No./EC No.	CONTENTS(%)
4-Hydroxybutyl acrylate	2478-10-6/219-606-3	20 – 30
Propylene glycol methyl ether	107-98-2/203-539-1	< 5
Phosphine Oxide Compound	162881-26-7/423-340-5	1 – 10
2-Propenoic acid 1,6-hexanediyl ester	13048-33-4/235-921-9	20 – 30
2-Propenoic acid 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester	3524-68-3/222-540-8	1 - 10
1,4-butanediol diacrylate	1070-70-8/213-979-6	< 1

SECTION 3 HAZARD IDENTIFICATION	
1. IN CASE OF EMERGENCY	: Wash with plenty of soap and water.
2. RISK INFORMATION	: NFPA Index (health = 1, fire= 1, reaction = 1)
3. LATENCY EFFECT FOR HEALTH	
- EYE CONTACT	: Possible severe irritation.
- SKIN CONTACT	: May cause sensitization.
- INHALATION	: From the space where it is shut tightly, the case which long time or excess amount will inhale the fume it is nauseous, vomit, dizzy and the internal organs damage etc. will be able to occur
- INGESTION	: May cause vomiting, gastroenteric disorder.
- CHRONIC	: N.E

SECTION 4	FIRST AID MEASURES
1. EYE CONTACT	: Rinse immediately with water and seek medical attention.
2. SKIN CONTACT	: Rinse immediately with water for at least 15 minutes after taking off working clothes.
3. INHALATION	: Move to fresh air.
4. INGESTION	: Obtain medical advice immediately.
5. WARNING FROM DOCTOR	: No specific antidote exists. Receive immediate medical attention according to the condition of a patient. If it caught a disease for skin and eye, so much grows worse by effect of different things.

SECTION 5	FIRE-FIGHTING MEASURES
1. FLASH POINT	: 94.1 °C (Seta Flash)
2. SPONTANEOUS COMBUSTION POINT	: N.E
3. MIN. FLASH POINT/MAX. FLASH POINT	: N.E/N.E
4. CLASSIFICATION AND PROVISION FOR THE FIRE SERVICES ACT.	: N.A
5. SUITABLE EXTINGUISHING MEDIA	: Sodium carbonate, Carbon tetra chloride. dry powder.
6. EXTINGUISHMENT/EXTINGUISHER	: - Non inhalation vapor, back against the wind. - Container cooling as water spray. - Check the spread of fire, extinguish the fire with suitable extinguisher. caution) Exposure for heat, spark and ignitor are possible of fire or explosion.
7. DESTRUCTION BY FIRE	: Toxic gases or vapors may be generated.
8. UNSUITABLE EXTINGUISHING MEDIA	: N.E

SECTION 6	ACCIDENTAL RELEASE MEASURES
PERSONAL PRECAUTION.	: Avoid ignition sources, contact with skin, eyes and clothing .
ENVIRONMENTAL PRECAUTION	: Waste matters are controlled by only company have a license.
METHODS FOR CLEANING OR REMOVING	: - In this case leak a small quantity of paste, wipe out a stain using dustcloth or absorb. Dispose in accordance with local regulations. - In this case leak a great quantity of paste, take in waste into a container using Scoop. Dispose in accordance with local regulations.

SECTION 7 HANDLING AND STORAGE	
HANDLING	: - In handling, wear safeguard. Caution of skin and eye contact - Rinse immediately with water for at least 15 minutes
STORAGE	: - Store in the original sealed container at 10~20℃. - Avoid direct exposure to UV and sunlight. - Storage in ventilative and place that is no damage of snow, wind, rain etc.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION	
1. TECHNICAL PROTECTIVE MEASURES.	: Establish an exhauster or washing stand
2. RESPIRATORY PROTECTION	: Wear suitable mask to avoid inhalation of vapor.
3. EYE AND HAND PROTECTION	: Wear safety glasses and chemical resistant gloves
4. BODY PROTECTION	: Wear chemical resistant working clothes for non body contact.
5. PROTECTION FOR SANITARY REASON	: At skin contact, wash with plenty of soap and water
6. PERMISSION CONCENTRATION	: N.E

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES			
1. APPEARANCE	: Liquid	2. ODOR	: Slight Odor
3. pH	: 6.0	4. SOLUBILITY	: N.A.
5. BOILING POINT	: 95℃ (CAS: 2478-10-6)	6. MELTING POINT	: N.E.
7. EXPLOSIVE PROPERTIES	: N.E	8. OXIDATION PROPERTIES	: N.E.
9. VAPOUR PRESSURE / DENSITY	: N.E	10. SPECIFIC GRAVITY	: 1.15
11. PARTITION COEFFICIENT	: N.E	12. VISCOSITY	: 12cPs(40℃)
13. MOLECULAR WEIGHT	: N.E	14. COLOR	: WHITE

SECTION 10 STABILITY AND REACTIVITY	
1. CHEMICAL STABILITY	: Stable for 3 months in low temp.(5~20℃)
2. MATERIALS TO AVOID	: Fire, Water, Strong Oxidant
3. CONDITIONS TO AVOID	: Direct ray of light(the sun), Ultraviolet rays, Source of heat.
4. HAZARDOUS DECOMPOSITION PRODUCT	: Other toxic gases or vapors may be generated in thermal decomposition.
5. POSSIBILITY OF POLYMERIZATION TOXIC	: N.E.

SECTION 11	TOXICOLOGICAL INFORMATION
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| 1. EFFECT OF THE EYES | : N.E. |
| 2. EFFECT OF THE SKIN | : N.E. |
| 3. EFFECT OF THE ACUTE ORAL | : N.E. |
| 4. EFFECT OF THE ACUTE INHALATION | : N.E. |
| 5. EFFECT OF THE TOXICITY | : N.E. |
| 6. EFFECT OF THE MUTAGENICITY | : N.E. |
| 7. EFFECT OF THE CHRONICITY | : N.E. |
| 8. EFFECT OF THE NEXT GENERATION | : N.E. |
| 9. EFFECT OF THE CARCINOGENICITY | : N.E. |

SECTION 12	THE INFLUENCE OF ENVIROMENT
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| 1.AQUATIC AND
ECOLOGICAL INFLUENCE | : N.E. |
| 2.SOIL MIGRATORY | : N.E. |
| 3.REMAINING BEHIND AND
DECOMPOSITION | : N.E. |
| 4.POSSIBILITY OF ACCUMULATION
WITHIN LIVING BODY OF LIVING THINGS | : N.E. |

SECTION 13	PRECAUTION IN DISUSE
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| 1.THE PRESENT CONDITION
OF REGULATION IN LAW
TO CONTROL WASTE
MATTERS. | : In the case of disusing illegal, you are aggravating punished in law to control waste matters (Article 58, Clause 2) and special law for controlling of environment crime (Article 7). |
| 2.DISUSE METHOD | : Product is waste matters generated in law to control waste matters (Article 2). Only company have a license control in law to control waste matters (Article 25). |
| 3.PRECAUTION IN DISUSE | : Isolate not to be leaked or outflow. |

SECTION 14	TRANSPORT INFORMATION
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| 1.CLACIFICATION AND REGULATION IN
SHIPPING TRANSPORT OF DANGEROUS
THINGS AND STORAGE RULES | : N.E. |
| 2. CLACIFICATION AND REGULATION
IN ICAO/IATA. ADR. RID | : N.A(F.P : 94.1 °C/Seta Flash) |
| 3. PRECAUTION IN TRANSPORT | : Take notice not to flow in rainwater and so on.
Take notice of heat and Direct ray of light(the sun).
Take notice not to flow in pollutants after opening tool.
Take notice to leak in opening tool and breakage. |

SECTION 15

REGULATORY INFORMATION

EEC LABELLING

Xi=Irritant



RISK PHRASES

R36/37/38 : Irritating to eyes , respiratory system and skin.

R43 : May cause sensitization by skin contact.

SAFETY PHRASES

S24 : Avoid contact with skin.

S37 : Wear suitable gloves.

1. 4-Hydroxybutyl acrylate (EC No. 219-606-3)- **Hazard Classification** : Xi; Irritant, R36/38 - R43- **"Risk & Safety" Phrases**

R36/38 : Irritating to eyes and skin.

R43 : May cause sensitization by skin contact.

2. 2-Propenoic acid 1,6-hexanediyl ester (EC No. 235-921-9)- **Hazard Classification** : Xi; Irritant, R36/38 - R43- **"Risk & Safety" Phrases**

R36/38 : Irritating to eyes and skin.

R43 : May cause sensitization by skin contact.

S2 : Keep out of the reach of children.

S39 : Wear eye/face protection.

3. 1,4-butanediol diacrylate (EC No. 213-979-5) Maximum <1%- **Hazard Classification** : Xi; R21- R34 - R43- **"Risk & Safety" Phrases**

R21 : Harmful in contact with skin

R34 : Causes burns.

R43 : May cause sensitization by skin contact.

S1/2 : Keep locked up and out of the reach of children.

S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S45 : In case of accident or if you feel unwell seek medical advice immediately

(show the label where possible)

4. Phosphine Oxide Compound (EC No. 423-340-5)- **Hazard Classification** : Xi; Irritant, R43 - R53- **"Risk & Safety" Phrases**

R43 : May cause sensitization by skin contact.

R53 : May cause long-term adverse effects in the aquatic environment.

S2 : Keep out of the reach of children.

S22 : Do not breathe dust.

S24 : Avoid contact with skin.

S37 : Wear suitable gloves.

S61 : Avoid release to the environment. Refer to special instructions/safety data sheet

5. Propylene glycol methyl ether (EC No. 203-539-1)

- **Hazard Classification :** -

- **"Risk & Safety" Phrases**

R10 : Flammable.

R67 : Vapours may cause drowsiness and dizziness

S2 : Keep out of the reach of children.

6. 2-Propenoic acid 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-propanediyl ester (EC No. 222-540-8)

- **Hazard Classification :** Xi; Irritant, R36/38 - R43

- **"Risk & Safety" Phrases**

R36/38 : Irritating to eyes and skin.

R43 : May cause sensitization by skin contact.

S2 : Keep out of the reach of children.

S39 : Wear eye/face protection.

SECTION 16**THE OTHERS INFORMATION**

- 1.This product is mixtures and made out referring MSDS of raw material composing this product.
- 2.This MSDS's reliability is high because of being based on research results of TYK, other institute and literature. But do not warrant about accuracy of contents.

-The end-

* optional

U.K. = Un-Known

N.E. = Not Established

N.A. = Not Applicable