

SAFETY DATA SHEET

Revision : September 1, 2016.

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS.

SECTION 1 : Identification of the substance/preparation and of the company/undertaking**Product details**

Trade name : RM UG ROYAL SILVER

SDS number : S150205

Application of the substance / the preparation : Printing Ink

Manufacturer/Supplier:

MITSUBOSHI PRINTING INK CO.,LTD.

HIGASHI 1-103 HAMADERAFUNAO-CHO NISHIKU SAKAI OSAKA 5928341 JAPAN

PHONE : +81-72-261-8250 FAX : +81-72-264-1421

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SECTION 2 : Hazards identification**GHS Classification**

| <u>Physical hazards</u> | <u>Category</u> |
|--|-----------------------------|
| Flammable liquids | Not classified |
| <u>Health hazards</u> | <u>Category</u> |
| Acute toxicity – oral | Classification not possible |
| Acute toxicity – dermal | Classification not possible |
| Acute toxicity – inhalation (gas) | Not applicable |
| Acute toxicity – inhalation (vapor) | Classification not possible |
| Acute toxicity – inhalation (dust, mist) | Classification not possible |
| Skin corrosion/irritation | Category 3 |
| Serious eye damage/eye irritation | Classification not possible |
| Respiratory sensitization | Classification not possible |
| Skin sensitization | Classification not possible |
| Germ cell mutagenicity | Classification not possible |
| Carcinogenicity | Classification not possible |
| Toxic to reproduction | Classification not possible |
| Specific target organ toxicity (single exposure) | Classification not possible |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Aspiration hazard | Category 2 |
| <u>Environmental hazards</u> | <u>Category</u> |
| Hazardous to the aquatic environment – acute | Category 3 |
| Hazardous to the aquatic environment – chronic | Category 3 |

– Other hazards that mentioned above are Not applicable or Classification Not possible.

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GHS Label Elements

Symbols :



Signal word : Warning

Hazard statement : H316 Causes mild skin irritation.
 : H373 May cause damage to liver, testis or nerve through prolonged or repeated exposure.
 : H305 May be harmful if swallowed and enters airways.
 : H402 Harmful to aquatic life.
 : H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

General : Be sure to read Safety Data Sheet (SDS) in use.
 Prevention : P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 : P273 Avoid release to the environment.
 Response : P301+P310 IF SWALLOWED : Immediately call a POISON CENTER or or doctor/physician.
 : P314 Get medical advice/attention if you feel unwell,
 : P331 Do NOT induce vomiting.
 : P332+P313 If skin irritation occurs : Get medical advice/attention.
 Storage : P405 Store locked up.
 Disposal : P501 Dispose of contents/container by entrust to the industrial waste disposal contractors who obtain permission of the prefectural governors.

SECTION 3 : Composition/information on ingredients

Classification of Substance or Mixture : Mixture

Chemical name or General Name : Offset Printing Ink

| Substance | CAS No. | EINECS No. | Content |
|-----------------|------------|------------|---------|
| Aluminum | 7429-90-5 | 231-072-3 | 15-25% |
| Mineral spirit | 64742-81-0 | 265-184-9 | < 2% |
| White mineral | 8042-47-5 | 232-455-8 | 5-10% |
| Synthetic resin | N/A | N/A | 35-45% |
| Drying oil | 8001-20-5 | 232-272-3 | 10-20% |
| Mineral oil | N/A | N/A | 20-25% |
| Additives | N/A | N/A | 1-5% |

SECTION 4 : First-aid measures

If inhaled : Remove person to fresh air and keep comfortable for breathing.
 : Get medical advice/attention if you feel unwell.
 If on skin : Wash with plenty of water and soap.
 : If skin irritation or rash occurs ; Get medical advice/attention.
 If in eye : Rinse cautiously with clean water immediately.
 If swallowed : Do NOT induce vomiting. Immediately call a doctor.

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SECTION 5 : Fire-fighting measures

Suitable extinguishing agents : Powder, Foam, Carbon dioxide, Water, Dry sand, Misty agent.
 Unsuitable extinguishing agents : Straight stream
 Special hazards : Move containers to safe places immediately.

SECTION 6 : Accidental release measures

Personal precautions

Protective equipment and emergency procedures

- : Ventilate well until completely-processed if indoor.
- : Wear protective equipment when the work.
- : Evacuate people downwind.
- : Keep unnecessary personnel away from pollution area by such loping.
- : Clear immediately nearby ignition sources.

Environmental precautions

- : Avoid release to the environment.

Method/Equipment of contaminant and purification

- : Wash away the contaminated place with plenty of water and dispersing agent after collecting
- : spillage in an empty container.

SECTION 7 : Handling and storage

Handling

- Technical countermeasure : Conduct the facility measures in Section 8. Wear protective equipment.
 Local exhaust /General ventilation : Seal the source or install general ventilation device if indoor.
 Precaution for safe handling : Close a container each use. (For prevention of drying or ink film)
 : Eliminate contaminant if attached on work clothing.
 : Wash hands and rinse mouth thoroughly after handling.
 : Burn up or dispose of the waste cloth wiping this product immediately.

Storage

- Conditions for safe storage : If over designated, comply with the fire prevention ordinance.
 : Store away from ignition sources.
 : Protect from sunlight.
 : Store in a cool and well-ventilated place.

SECTION 8 : Exposure controls / personal protection

Control parameters of Compositional substances : Not set

| | Control parameter | ACGIH |
|----------------|----------------------|-------------------------------|
| Aluminum | 3.0mg/m ³ | 10mg/m ³ (powder) |
| Mineral spirit | | 100ppm |
| Mineral oil | | 5mg/m ³ (oil mist) |

Equipment provision : Install ventilation device if generated mist or vapor.

Protective equipment

Respiratory protection : Use a mask in case mist or vapor is produced.

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Protection of hands : Protective gloves
 Eye protection : Protective eye protection
 Skin/Body protection : Protective clothing, protective boots

SECTION 9 : Physical and chemical properties

Information on basic physical and chemical properties

Appearance : Pasty (silver color)
 Smell : Oily
 Boiling point/Initial boiling point : 250°C
 Flash point : 154°C
 Specific Gravity : 1.1–1.3g/cc
 Solubility : Insoluble in water, soluble in organic solvent.

Physical or chemical properties of components :

| | Boiling point | Flash point | Ignition point | Density | Solubility in water | Explosion limit |
|-----------------|---------------|-------------|----------------|-----------------------|---------------------|-----------------|
| Mineral spirit | 130–200°C | 40–45°C | 245°C | -- | Insoluble | 0.8–4.9% |
| Hydrocarbon oil | 218–643°C | > 115°C | 260–371°C | 0.81–0.894 | Insoluble | -- |
| Mineral oil | 296–317°C | 160°C | 200–410°C | 0.817g/m ³ | Insoluble | 1–7% |

SECTION 10 : Stability and reactivity

Chemical stability : Oxidative polymerization slowly in contact with air.
 Conditions to avoid : No findings
 Hazardous decomposition products : Generation of toxic gas like CO/NOX by combustion.

SECTION 11 : Toxicological information

Toxicological information as production : No toxicological information as a product.

Toxicological information of components :

| | Acute toxicity (oral) | Acute toxicity (dermal) | Acute toxicity (gas) | Acute toxicity (vapor) |
|----------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Aluminum | Classification not possible | Classification not possible | Classification not possible | Classification not possible |
| Mineral spirit | Not classified | Classification not possible | Classification not possible | Classification not possible |
| Mineral oil | Not classified | Not classified | Not classified | Not classified |

| | Acute toxicity (dust, mist) | Skin corrosion /irritation | Serious eye damage/irritation | Respiratory sensitization |
|----------------|-----------------------------|-----------------------------|-------------------------------|-----------------------------|
| Aluminum | Classification not possible | Classification not possible | Classification not possible | Classification not possible |
| Mineral spirit | Classification not possible | Category 2 | Not classified | Classification not possible |
| Mineral oil | Not classified | Not classified | Not classified | Not classified |

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| | Skin sensitization | Germ cell mutagenicity | Carcinogenicity | Toxic to reproduction |
|----------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Aluminum | Classification not possible | Classification not possible | Classification not possible | Classification not possible |
| Mineral spirit | Classification not possible | Not classified | Classification not possible | Not classified |
| Mineral oil | Not classified | Not classified | Not classified | Not classified |

| | Specific target organ toxicity (single exposure) | Specific target organ toxicity (repeated exposure) | Aspiration hazard |
|----------------|---|--|-----------------------------|
| Aluminum | Classification not possible | Category 2 (Nervous system) | Classification not possible |
| Mineral spirit | Category 3 (Narcotic effect) (respiratory tract irritation) | Category 2 (Liver, Testis) | Category 1 |
| Mineral oil | Not classified | Not classified | Category 1 |

SECTION 12 : Ecological information

Ecological information as production :

| | Hazardous to the aquatic environment (acute) | Hazardous to the aquatic environment (long-term) |
|----------------|--|--|
| Aluminum | Classification not possible | Category 4 |
| Mineral spirit | Category 1 | Category 1 |
| Mineral oil | Not classified | Not classified |

SECTION 13 : Disposal consideration

Entrust to waste disposers licensed from such prefectural governors or to local governments if they dispose. Do not release the drainage cleaning container, equipment or device on the ground or to water ditches directly. Keep container tightly closed for contents not to outflow when toppling.

SECTION 14 : Transport information

•Japan domestic regulations

UN number : N/A

Land regulatory information : Comply with transportation specified by the Fire Defense Law, Industrial Safety and Health Law, or Poison Law.

Maritime regulatory information : Comply with transportation specified by Ship Safety Act.

Aviation regulatory information : Comply with transportation specified by Civil Aeronautics Act.

•Transport/Additional information : Not dangerous according to IMDG/IATA/ADR/AND.

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| SECTION 15 : Regulatory information |
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- Industrial Safety and Health Act : Notified substances ; 2 of Article 57
 - Fire Service Act ; Fire Prevention Ordinance : Specified flammable material (flammable solid type)
 - Law concerning Pollutant Release and Transfer Register (PRTR Law)
 - Waste Management and Public Cleansing Act
- Safety, health and environmental regulations/legislation specific for the substance or mixture.
: This product complies with Japanese regulations. Follow all regulations in your country.

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| SECTION 16 : Other information |
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This "SAFETY DATA SHEET" is not safety warranty. If used this product, take appropriate measures to actual condition on user's own responsibility referring to this "SAFETY DATA SHEET".

And the content of "SAFETY DATA SHEET" may change according to revising laws and regulations and/or new knowledge