

## 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 UFG ROYAL GOLD BLUISH  
 SDS number : G150201  
 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

EMERGENCY PHONE : +81-72-261-8250

**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 1A                 |
| 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)   | Category 3                  |
| Specific target organ toxicity (repeated exposure) | Classification not possible |
| Aspiration hazard                                  | Not applicable              |
| <u>Environmental hazards</u>                       | <u>Category</u>             |
| Hazardous to the aquatic environment – acute       | Classification not possible |
| Hazardous to the aquatic environment – chronic     | Classification not possible |

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

## SAFETY DATA SHEET

Revision : September 1, 2016.

Trade name : RM UFG ROYAL GOLD BLUISH

## GHS Label Elements

Symbols :



Signal word : Warning

Hazard statement : H317 May cause an allergic skin reaction.

: H335 May cause respiratory irritation.

## Precautionary Statements

General : Be sure to read Safety Data Sheet (SDS) in use.

Prevention : P233 Keep container tightly closed.

: P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

: P271 Use only outdoors or in a well-ventilated area.

: P272 Contaminated work clothing should not be allowed out of the workplace.

: P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response : P302+P352 IF ON SKIN: Wash with plenty of soap and water.

: P332+P313 If skin irritation occurs: Get medical advice/attention.

: P321 Specific treatment (see Section 4 on this SDS).

: P362+364 Take off contaminated clothing and wash before reuse.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

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 |
|-----------------|-----------|------------|---------|
| Copper          | 7440-50-8 | 231-159-6  | 25-35%  |
| Zinc            | 7440-66-6 | 231-175-3  | 5-15%   |
| Pigment         | 5102-83-0 | 225-822-9  | 1-3%    |
| Synthetic resin | N/A       | N/A        | 25-35%  |
| Vegetable oil   | 8001-22-7 | 232-274-4  | 5-15%   |
| Mineral oil     | N/A       | N/A        | 10-20%  |
| Additives       | N/A       | N/A        | < 2%    |

## 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 eye irritation continues ; Get medical advice/attention.

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.

#### Methods/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)  
: If on clothing, make the stain go away.  
: Wash hands and rinse mouth thoroughly after handling.  
: Burn up or dispose of the waste clothwiping this product immediately.

#### Storage

- Conditions for safe storage : If over designed, 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                         |
|-------------|-------------------|-------------------------------|
| Copper      |                   | 1mg/m <sup>3</sup> (powder)   |
| Mineral oil |                   | 5mg/m <sup>3</sup> (oil mist) |

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Trade name : RM UFG ROYAL GOLD BLUISH

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

## Protective equipment

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

Protection of hands : Protective gloves

Eye protection : Protective eye protection

Skin protection : Protective clothing, protective boots

## SECTION 9 : Physical and chemical properties

## Information on basic physical and chemical properties

Appearance : Pasty (golden color)

Smell : Oily

Boiling point/Initial boiling point : 250°C

Flash point : 154°C

Specific Gravity : 1.4-1.7g/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 |
|-------------|---------------|-------------|----------------|-----------------------|---------------------|-----------------|
| Copper      | 2566°C        |             |                | 8.96g/m <sup>3</sup>  | Insoluble           |                 |
| Zinc        | 907°C         |             |                | 7.13g/m <sup>3</sup>  | Insoluble           |                 |
| Mineral oil | 296-317°C     | 160°C       | 200-410°C      | 0.817g/m <sup>3</sup> | 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)      |
|-------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Copper and its compound | Classification not possible | 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   |
|-------------------------|-----------------------------|----------------------------|-------------------------------|-----------------------------|
| Copper and its compound | Classification not possible | Category 1A                | Classification not possible   | Classification not possible |
| Mineral oil             | Not classified              | Not classified             | Not classified                | Not classified              |

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Trade name : RM UFG ROYAL GOLD BLUISH

|                         | Skin sensitization          | Germ cell mutagenicity      | Carcinogenicity             | Toxic to reproduction       |
|-------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Copper and its compound | Classification not possible | Classification not possible | Classification not possible | Classification not possible |
| Mineral oil             | Not classified              | Not classified              | Not classified              | Not classified              |

|                         | Specific target organ toxicity (single exposure) | Specific target organ toxicity (repeated exposure) | Aspiration hazard           |
|-------------------------|--------------------------------------------------|----------------------------------------------------|-----------------------------|
| Copper and its compound | Category 3<br>(Respiratory tract irritation)     | Classification not possible                        | Classification not possible |
| 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 (acute) |
|-------------------------|----------------------------------------------|----------------------------------------------|
| Copper and its compound | Classification not possible                  | Classification not possible                  |
| 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 cleansing container, equipment or device on the ground or to water ditches directory.  
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.

## SECTION 15 : Regulatory information

•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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|              |                          |
|--------------|--------------------------|
| Trade name : | RM UFG ROYAL GOLD BLUISH |
|--------------|--------------------------|

|                                |
|--------------------------------|
| SECTION 16 : Other information |
|--------------------------------|

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

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

Trade name : RM UFG ROYAL GOLD REDDISH  
 SDS number : G150202  
 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

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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 1A                 |
| 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)   | Category 3                  |
| Specific target organ toxicity (repeated exposure) | Classification not possible |
| Aspiration hazard                                  | Not applicable              |
| <u>Environmental hazards</u>                       | <u>Category</u>             |
| Hazardous to the aquatic environment – acute       | Classification not possible |
| Hazardous to the aquatic environment – chronic     | Classification not possible |

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

## SAFETY DATA SHEET

Revision : September 1, 2016.

Trade name : RM UFG ROYAL GOLD REDDISH

## GHS Label Elements

Symbols :



Signal word : Warning

Hazard statement : H317 May cause an allergic skin reaction.

: H335 May cause respiratory irritation.

## Precautionary Statements

General : Be sure to read Safety Data Sheet (SDS) in use.

Prevention : P233 Keep container tightly closed.

: P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

: P271 Use only outdoors or in a well-ventilated area.

: P272 Contaminated work clothing should not be allowed out of the workplace.

: P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response : P302+P352 IF ON SKIN: Wash with plenty of soap and water.

: P332+P313 If skin irritation occurs: Get medical advice/attention.

: P321 Specific treatment (see Section 4 on this SDS).

: P362+364 Take off contaminated clothing and wash before reuse.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

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 |
|-----------------|-----------|------------|---------|
| Copper          | 7440-50-8 | 231-159-6  | 25-35%  |
| Zinc            | 7440-66-6 | 231-175-3  | 5-15%   |
| Pigment         | 5102-83-0 | 225-822-9  | 1-3%    |
| Synthetic resin | N/A       | N/A        | 25-35%  |
| Vegetable oil   | 8001-22-7 | 232-274-4  | 5-15%   |
| Mineral oil     | N/A       | N/A        | 10-20%  |
| Additives       | N/A       | N/A        | < 2%    |

## 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 eye irritation continues ; Get medical advice/attention.

If swallowed : Do NOT induce vomiting. Immediately call a doctor.

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## SAFETY DATA SHEET

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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.

#### Methods/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)  
: If on clothing, make the stain go away.  
: Wash hands and rinse mouth thoroughly after handling.  
: Burn up or dispose of the waste clothwiping this product immediately.

#### Storage

- Conditions for safe storage : If over designed, 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                         |
|-------------|-------------------|-------------------------------|
| Copper      |                   | 1mg/m <sup>3</sup> (powder)   |
| Mineral oil |                   | 5mg/m <sup>3</sup> (oil mist) |

## SAFETY DATA SHEET

Revision : September 1, 2016.

Trade name : RM UFG ROYAL GOLD REDDISH

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

## Protective equipment

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

Protection of hands : Protective gloves

Eye protection : Protective eye protection

Skin protection : Protective clothing, protective boots

## SECTION 9 : Physical and chemical properties

## Information on basic physical and chemical properties

Appearance : Pasty (golden color)

Smell : Oily

Boiling point/Initial boiling point : 250°C

Flash point : 154°C

Specific Gravity : 1.4–1.7g/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 |
|-------------|---------------|-------------|----------------|-----------------------|---------------------|-----------------|
| Copper      | 2566°C        |             |                | 8.96g/m <sup>3</sup>  | Insoluble           |                 |
| Zinc        | 907°C         |             |                | 7.13g/m <sup>3</sup>  | Insoluble           |                 |
| Mineral oil | 296–317°C     | 160°C       | 200–410°C      | 0.817g/m <sup>3</sup> | 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)      |
|-------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Copper and its compound | Classification not possible | 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   |
|-------------------------|-----------------------------|----------------------------|-------------------------------|-----------------------------|
| Copper and its compound | Classification not possible | Category 1A                | Classification not possible   | Classification not possible |
| Mineral oil             | Not classified              | Not classified             | Not classified                | Not classified              |

## SAFETY DATA SHEET

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Trade name : RM UFG ROYAL GOLD REDDISH

|                         | Skin sensitization          | Germ cell mutagenicity      | Carcinogenicity             | Toxic to reproduction       |
|-------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Copper and its compound | Classification not possible | Classification not possible | Classification not possible | Classification not possible |
| Mineral oil             | Not classified              | Not classified              | Not classified              | Not classified              |

|                         | Specific target organ toxicity (single exposure) | Specific target organ toxicity (repeated exposure) | Aspiration hazard           |
|-------------------------|--------------------------------------------------|----------------------------------------------------|-----------------------------|
| Copper and its compound | Category 3<br>(Respiratory tract irritation)     | Classification not possible                        | Classification not possible |
| 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 (acute) |
|-------------------------|----------------------------------------------|----------------------------------------------|
| Copper and its compound | Classification not possible                  | Classification not possible                  |
| 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 devise on the ground or to water ditches directory. 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.

## SECTION 15 : Regulatory information

- 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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| Trade name : | RM UFG ROYAL GOLD REDDISH |
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| SECTION 16 : Other information |
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