

# Material Safety Data Sheet

8108

## MATERIAL SAFETY DATA SHEET

## [1. PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME : TUFTONE HOK  
 SUPPLIER : Ricoh Printing Systems, Ltd.  
 ADDRESS : 1-1, Higashitaga-cho 1-chome, Hitachi-City, Ibaraki-Pref. 316-8502, Japan  
 DIVISION : Design Dept. 2, Design & Development Division 2  
 TELEPHONE NUMBER : +81-294-36-8785  
 FAX NUMBER : +81-294-36-8979  
 EMERGENCY : +81-294-36-8785  
 TELEPHONE NUMBER

## [2. COMPOSITION/INFORMATION ON INGREDIENTS]

SUBSTANCE OR PREPARATION : Preparation

## INGREDIENTS AND CONCENTRATION RANGE

Ingredients

Concentration Range(%)

CAS RN

Black toner

Confidential

INGREDIENTS CONTRIBUTING TO : None  
THE HAZARD(JAPAN)

## [3. HAZARDS IDENTIFICATION]

## MOST IMPORTANT HAZARDS :

ADVERSE HUMAN HEALTH EFFECTS : To the best of our investigation, no special hazards have to be mentioned.

ENVIRONMENTAL EFFECTS : To the best of our investigation, no information about adverse effect in the environment available.

PHYSICAL AND CHEMICAL HAZARDS : This material is not dangerous in case of usual handling. May cause risk of dust explosion.

CLASS NAME FOR MSDS IN JAPAN : Not applicable

## [4. FIRST-AID MEASURES]

IN CASE OF INHALATION : Remove person to fresh air. If necessary seek medical attention.

IN CASE OF SKIN CONTACT : Wash material off the skin with plenty of water and soap. If necessary seek medical attention.

IN CASE OF EYE CONTACT : Immediately hold eyelids open and flush with a stream of water for at least 15 minutes. If necessary seek medical attention.

IN CASE OF INGESTION : Seek medical attention. Never give anything by mouth to an unconscious person. If possible, rinse out mouth and give one or two glasses of water or milk to drink.

[5. FIRE-FIGHTING MEASURES]  
EXTINGUISHING MEDIA

: Water spray, powder

- NOT SUITABLE EXTINGUISHING MEDIA** : No information available
- SPECIFIC HAZARDS** : May produce irritating or toxic gases in a fire.
- SPECIFIC METHODS** : Keep away from sources of ignition and use appropriate extinguishing media. Fight fire from upwind position if possible.
- PROTECTION OF FIREFIGHTERS** : Use goggles in combination with dust mask, and another protections as appropriate to situation.

**[6. ACCIDENTAL RELEASE MEASURES]**

- PERSONAL PRECAUTIONS** : Use mask, goggles and protective gloves.  
Large spills : Remove person to safety.  
Ensure adequate ventilation.  
Treat from upwind position.
- ENVIRONMENTAL PRECAUTIONS** : Do not discharge into the drains, surface waters or ground water directly.
- METHODS FOR CLEANING UP** : Sweep or vacuum spills.  
Prevent dispersion of dust.
- PREVENTION OF SECONDARY HAZARDS** : No information available

**[7. HANDLING AND STORAGE]****HANDLING**

- TECHNICAL MEASURES** : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- PRECAUTIONS** : Avoid inhalation of fine dust .
- SAFE HANDLING ADVICE** : Handle in well-ventilated areas.  
Use safety glasses and protective gloves as appropriate to situation.  
Wash hands and face and gargle after handling.

**STORAGE**

- STORAGE CONDITIONS** : Keep container tightly closed.  
Protect from sun. Store in a well-ventilated room (under 40 C).
- PACKAGING MATERIALS** : No information available

**[8. EXPOSURE CONTROLS/PERSONAL PROTECTION]**

- ENGINEERING MEASURES** : Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.  
Use an adequate ventilation.

**LIMIT VALUES**

- ACGIH(TLV)** : TWA 3.5mg/m3,(2002 year edition)  
Carbon black
- OSHA(PEL)** : PEL 3.5mg/m3,(2002 year edition)  
Carbon black

**PERSONAL PROTECTIVE EQUIPMENT**

- RESPIRATORY PROTECTION** : Use dust mask, as appropriate to situation.
- HAND PROTECTION** : Rubber gloves
- EYE PROTECTION** : Safety glasses with side shield(Safety goggles or Face shield)

SKIN AND BODY PROTECTION : Full-body suit  
 HYGIENE MEASURES : No information available

**[9. PHYSICAL AND CHEMICAL PROPERTIES]****PHYSICAL STATES**

FORM : Pulverizing powder  
 COLOUR : Black  
 ODOUR : Odourless  
 pH : Not applicable

**SPECIFIC TEMPERATURES/TEMPERATURE RANGES AT WHICH CHANGES IN PHYSICAL STATE OCCUR**

BOILING POINT : No data available  
 MELTING POINT : No data available  
 DECOMPOSITION TEMPERATURE : No data available  
 FLASH POINT : Not applicable  
 AUTOIGNITION TEMPERATURE : No data available

**EXPLOSION PROPERTIES**

EXPLOSION : UPPER LIMIT : No data available LOWER LIMIT : No data available  
 VAPOUR PRESSURE : No data available  
 VAPOUR DENSITY : No data available  
 DENSITY : 1.2 g/mL ( 20 °C ) ( 68 °F )  
 SOLUBILITY  
 WATER SOLUBILITY : Insoluble  
 SOLVENT SOLUBILITY : Partially soluble in toluene, chloroform and tetrahydrofuran.  
 OCTANOL/WATER PARTITION COEFFICIENT : No data available  
 OTHER DATA : No data available

**[10. STABILITY AND REACTIVITY]**

STABILITY : Stable in general.  
 HAZARDOUS REACTIONS : Stable.  
 CONDITIONS TO AVOID : No information available  
 MATERIALS TO AVOID : No information available  
 HAZARDOUS DECOMPOSITION PRODUCTS : No information available  
 OTHERS : No information available

**[11. TOXICOLOGICAL INFORMATION]**

ACUTE TOXICITY : LD50 : > 2500 mg/kg  
 5.05 mg/L : No death

## LOCAL EFFECTS

CORROSIVITY	: No information available
SKIN IRRITATION	: undiluted : P.I.I = 0, Non-irritant
EYE IRRITATION	: undiluted, Unwashed eyes : MAS = 1.3, Practically non-irritating
SENSITIZATION	: Negative
CHRONIC TOXICITY/LONG TERM TOXICITY	: No information available
CARCINOGENICITY	: No information available
IARC	: Group2B, (2002 year edition) Carbon black Group3, (2002 year edition) Silica
NTP	: Not established
OSHA	: Not established
MUTAGENICITY	: Negative
TERATOGENICITY	: No information available
REPRODUCTION TOXICITY	: No information available
OTHER DATA	: No information available

## [12.ECOLOGICAL INFORMATION]

MOBILITY	: No information available
PERSISTENCE/ DEGRADABILITY	: No information available
BIOACCUMULATION	: No information available
ECOTOXICITY	
AQUATIC TOXICITY	: No information available
OTHER DATA	: No information available

## [13.DISPOSAL CONSIDERATIONS]

Review "HANDLING AND STORAGE (Section 7)".  
Dispose of waste (after vacuuming) in accordance with local, state, and federal regulations.

Dispose of waste in accordance with local, state and federal regulations.

## [14.TRANSPORT INFORMATION]

Follow all regulations in your country or region

UN CLASS/UN NUMBER	: Not applicable
PRECAUTIONS	: Review "ACCIDENTAL RELEASE MEASURES (Section 6)". Review "HANDLING AND STORAGE (Section 7)". Ensure containers without breakage or leakage. Ensure containers tightly fixed. Follow all regulations in your country or region.

## [15.REGULATORY INFORMATION]

Follow all regulations in your country or region

## INVENTORIES

: ENCS (Japan)	Yes
TSCA (USA)	Yes
EINECS (EU)	No (ELINCS)
AICS (Australia)	Yes
DSL (Canada)	No (NDSL)
ECL (Korea)	Yes
IECSC (China)	Yes
PICCS (Philippines)	No

Ricoh Printing Systems, Ltd. Is not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

[16. OTHER INFORMATION]  
REFERENCE

- : -Safety data sheet for chemical products - Part 1: Content and order of sections(ISO 11014-1)
- International Chemical Safety Cards(ICSC) (Compiler's Guide)(1994)

To the best of the manufacturer's knowledge, the information contained herein is accurate. However, neither the manufacturer, nor any of its affiliates, make any representations or warranties (expressed or implied), nor assumes any liability (including liability for any direct, incidental, consequential, or other damages) with respect to the accuracy or completeness of the information contained herein. Such information may be (without limitation) invalid if the specified material is used in combination with another, in a particular process, or under unusual conditions. Determination of suitability of any material for any given purpose is the sole responsibility of the user who assumes all risk and responsibility therefore. All materials may present unknown hazards and should be used with appropriate caution. The manufacturer cannot and does not guarantee that the hazards described herein are the only ones that exist.

# Safety Data Sheet (ISO form)

Date Prepared 2006/05/09

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## 1. Product and Company Identification

Product Name : LEA-C Toner

Company Name : Ricoh Printing Systems, Ltd.

Department : Design Dept.2, Design & Development Division 2

Address : 1-1, Higashitaga-cho 1-chome, Hitachi-City, Ibaraki-Pref. 316-8502, Japan

Telephone Number : +81-294-36-8785

Emergency Telephone Number : +81-294-36-8785

Telefax Number : +81-294-36-8979

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## 2. Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	CAS. No.	Contents (%)
Polyester Resin 1	Confidential	40~60
Polyester Resin 2	Confidential	20~40
Wax	Confidential	1~8
Organic Pigment	147-14-8	1~8
Silica	Confidential	1~10
Organic Salt	Confidential	1~5

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## 3. Hazards Identification (Most Important Hazard)

Adverse Human Health Effects

Not applicable in normal use.

Carcinogenicity

This Product does not contain the carcinogenic substances which are listed in NTP, IARC and are regulated by OSHA.

Environmental Effects

Not applicable in normal use.

Physical and Chemical Hazards

Not applicable in normal use.

The Classification of The Chemical Product

Not applicable

#### 4. First-Aid Measures

##### Inhalation

Gargle with water, move to place in fresh air. If unsuccessful, get medical attention.

##### Skin Contact

Wash thoroughly with soap and water.

##### Eye Contact

Immediately wash eyes with plenty of water. If unsuccessful, get medical attention.

##### Ingestion

Dilute stomach contents with several glasses of water. If unsuccessful, get medical attention.

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#### 5. Fire-Fighting Measures

##### Extinguishing Media

CO<sub>2</sub>, dry chemicals, foam or water.

##### Specific Method

Generally by sprinkling or extinguisher.

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#### 6. Accidental Release Measures

##### Personal Precautions

Minimize inhalation of dust.

##### Environment Precautions

Keep product out of sewers and watercourses.

##### Methods for Cleaning Up

If spilled, sweep up or pick up by vacuum cleaner (rated for toner extraction)

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#### 7. Handling and Storage

##### Handling (technical measures, precautions, safe handling material)

Do not handle in areas where wind blows.

Flying powder may enter eyes.

Minimize breathing dust.

##### Storage (technical measures, storage conditions, packaging material)

Avoid direct sunlight.

Do not keep this over 35 degrees centigrade.

Keep out of reach of children.



## 8. Exposure Controls/Personal Protection

### Respiratory Protections

Use an approved dust respirator for concentrations in excess of the applicable exposure limits.

### Hand Protection

Use vinyl or rubber gloves if necessary.

### Eye Protection

Put on goggles.

### Skin and Body Protection

Use Chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

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## 9. Physical and Chemical Properties

### Physical State

Form : Powder

Color : Cyan

Odour : Slightly plastic odor

### Information

pH : not applicable Measuring Temp. (°C) : —

Boiling Point (°C) : not applicable

Flash Point (°C) : not available

Explosion Properties (°C) : This product is considered a nonexplosive material under normal use condition.

Vapor Pressure(Pa) : not applicable Measuring Temp. (°C) : —

Vapor Density(AIR=1) : not applicable

Density (g/cm<sup>3</sup>) : approx. 1.2 Measuring Temp. (°C) : 25

### Solubility

Water Solubility(g/L) : Insoluble

Water Solubility Measuring Temp. (°C) : —

Other Solvent name : Chloroform

Other Solvent Solubility(g/L) : slightly soluble

Other Solvent Solubility Measuring Temp. (°C) : —

### Octanol/Water Partition Coefficient

not available

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## 10. Stability and Reactivity

### Conditions to Avoid

Not applicable in normal use.

### Materials to Avoid

Not applicable in normal use.

### Hazardous Decomposition Products

not available

## 11. Toxicological Information

### Acute Toxicity

#### Acute Oral Toxicity

Rat :  $\geq 5000$ mg/kg (Based on other product test results of similar ingredients.)

#### Acute Dermal Toxicity

: not available

#### Acute Inhalation Toxicity

: not available

### Sensitization

Acute Skin Irritation(PII) :  $\leq 1.0$  (Based on other product test results of similar ingredients.)

Acute Eye Irritation : not available (None of ingredients is listed on hazardous characteristics list of EU.)

Acute Allergenic Effects : 0 (%) (Based on other product test results of similar ingredients.)

### Specific Effects

#### Carcinogenicity :

No data is available on this product.

Mutagenicity : negative (Ames test)

Effects on The Reproductive System : No data is available on this product.

Teratogenic : Not available.

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## 12. Ecological Information

Persistence/Degradability : not known

### Bioaccumulation

Not known in bioaccumulation.

### Ecotoxicity

Acute Toxicity for Fish : LC50: >750 (mg/l/96hr)

Acute Toxicity for Daphnia : HC50: >100 (mg/l/48hr)

Algae Inhibition Test : EC50: >100 (mg/l/72hr)

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## 13. Disposal Consideration

### Recommended Methods for Safe Environmentally Preferred Disposal

Used toner should be disposed of in an environmentally appropriate manner and in accordance with governmental regulations. Do not incinerate.

## 14. Transport Information

### International Regulations

RID/ADR : not applicable

DOT 49 CFR : not applicable

ADNR : not applicable

IMDG Code : not applicable

ICAO-TI/IATA-DGR : not applicable

The UN Classification Number: not applicable

### Specific Precautionary Transport Measures

Avoid direct sunlight. Do not keep this over 35 degrees centigrade.

### Specific Materials to Avoid

None in normal use.

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## 15. Regulation Information

Follow all regulations in your country or region

INVENTORIES	: ENCS (Japan)	Yes
	TSCA (USA)	Yes
	EINECS (EU)	No (ELINCS)
	AICS (Australia)	Yes
	DSL (Canada)	No (NDSL)
	ECL (Korea)	Yes
	IECSC (China)	Yes
	PICCS (Philippines)	No

Ricoh Printing Systems, Ltd. Is not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

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## 16. Other Information

### References:

IARC(1996) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds", Lyon, pp149-261

# Safety Data Sheet (ISO form)

Date Prepared 2006/05/09

## 1. Product and Company Identification

Product Name : LEA-M Toner

Company Name : Ricoh Printing Systems, Ltd.

Department : Design Dept.2, Design & Development Division 2

Address : 1-1, Higashitaga-cho 1-chome, Hitachi-City, Ibaraki-Pref. 316-8502, Japan

Telephone Number : +81-294-36-8785

Emergency Telephone Number : +81-294-36-8785

Telefax Number : +81-294-36-8979

## 2. Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	CAS. No.	Contents (%)
Polyester Resin 1	Confidential	40~60
Polyester Resin 2	Confidential	20~40
Organic Pigment	67990-05-0	1~10
Wax	Confidential	1~8
Silica	Confidential	1~10
Organic Salt	Confidential	1~5

## 3. Hazards Identification (Most Important Hazard)

Adverse Human Health Effects

Not applicable in normal use.

Carcinogenicity

This Product does not contain the carcinogenic substances which are listed in NTP, IARC and are regulated by OSHA.

Environmental Effects

Not applicable in normal use.

Physical and Chemical Hazards

Not applicable in normal use.

The Classification of The Chemical Product

Not applicable

#### 4. First-Aid Measures

##### Inhalation

Gargle with water, move to place in fresh air. If unsuccessful, get medical attention.

##### Skin Contact

Wash thoroughly with soap and water.

##### Eye Contact

Immediately wash eyes with plenty of water. If unsuccessful, get medical attention.

##### Ingestion

Dilute stomach contents with several glasses of water. If unsuccessful, get medical attention.

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#### 5. Fire-Fighting Measures

##### Extinguishing Media

CO<sub>2</sub>, dry chemicals, foam or water.

##### Specific Method

Generally by sprinkling or extinguisher.

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#### 6. Accidental Release Measures

##### Personal Precautions

Minimize inhalation of dust.

##### Environment Precautions

Keep product out of sewers and watercourses.

##### Methods for Cleaning Up

If spilled, sweep up or pick up by vacuum cleaner (rated for toner extraction)

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#### 7. Handling and Storage

##### Handling (technical measures, precautions, safe handling material)

Do not handle in areas where wind blows.

Flying powder may enter eyes.

Minimize breathing dust.

##### Storage (technical measures, storage conditions, packaging material)

Avoid direct sunlight.

Do not keep this over 35 degrees centigrade.

Keep out of reach of children.

## 8. Exposure Controls/Personal Protection

### Respiratory Protections

Use an approved dust respirator for concentrations in excess of the applicable exposure limits.

### Hand Protection

Use vinyl or rubber gloves if necessary.

### Eye Protection

Put on goggles.

### Skin and Body Protection

Use Chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

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## 9. Physical and Chemical Properties

### Physical State

Form : Powder  
Color : Magenta  
Odour : Slightly plastic odor

### Information

pH	: not applicable	Measuring Temp. (°C)	: —
Boiling Point (°C)	: not applicable		
Flash Point (°C)	: not available		
Explosion Properties (°C)	: This product is considered a nonexplosive material under normal use condition.		
Vapor Pressure(Pa)	: not applicable	Measuring Temp. (°C)	: —
Vapor Density(AIR=1)	: not applicable		
Density (g/cm <sup>3</sup> )	: approx. 1.2	Measuring Temp. (°C)	: 25

### Solubility

Water Solubility(g/L)	: Insoluble
Water Solubility Measuring Temp. (°C)	: —
Other Solvent name	: Chloroform
Other Solvent Solubility(g/L)	: slightly soluble
Other Solvent Solubility Measuring Temp. (°C)	: —

Octanol/Water Partition Coefficient  
not available

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## 10. Stability and Reactivity

### Conditions to Avoid

Not applicable in normal use.

### Materials to Avoid

Not applicable in normal use.

### Hazardous Decomposition Products

not available

## 11. Toxicological Information

### Acute Toxicity

#### Acute Oral Toxicity

Rat :  $\geq 5000$ mg/kg

#### Acute Dermal Toxicity

: not available

#### Acute Inhalation Toxicity

: not available

### Sensitization

Acute Skin Irritation(PII) :  $\leq 1.0$

Acute Eye Irritation : not available (None of ingredients is listed on hazardous characteristics list of EU.)

Acute Allergenic Effects : 0% (Based on other product test results of similar ingredients.)

### Specific Effects

#### Carcinogenicity :

No data is available on this product.

Mutagenicity : negative (Ames test)

Effects on The Reproductive System : No data is available on this product.

Teratogenic : Not available.

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## 12. Ecological Information

Persistence/Degradability : not known

### Bioaccumulation

Not known in bioaccumulation.

### Ecotoxicity

Acute Toxicity for Fish : LC50:  $>750$  (mg/l/96hr)

Acute Toxicity for Daphnia : HC50:  $>100$  (mg/l/48hr)

Algae Inhibition Test : EC50:  $>100$  (mg/l/72hr)

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## 13. Disposal Consideration

### Recommended Methods for Safe Environmentally Preferred Disposal

Used toner should be disposed of in an environmentally appropriate manner and in accordance with governmental regulations. Do not incinerate.

## 14. Transport Information

### International Regulations

RID/ADR : not applicable

DOT 49 CFR : not applicable

ADNR : not applicable

IMDG Code : not applicable

ICAO-TI/IATA-DGR : not applicable

The UN Classification Number: not applicable

### Specific Precautionary Transport Measures

Avoid direct sunlight. Do not keep this over 35 degrees centigrade.

### Specific Materials to Avoid

None in normal use.

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## 15. Regulation Information

Follow all regulations in your country or region

INVENTORIES	: ENCS (Japan)	Yes
	TSCA (USA)	Yes
	EINECS (EU)	No (ELINCS)
	AICS (Australia)	Yes
	DSL (Canada)	No (NDSL)
	ECL (Korea)	Yes
	IECSC (China)	Yes
	PICCS (Philippines)	No

Ricoh Printing Systems, Ltd. Is not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

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## 16. Other Information

### References:

IARC(1996) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds", Lyon, pp149-261



# Safety Data Sheet (ISO form)

Date Prepared 2006/05/09

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## 1. Product and Company Identification

Product Name : LEA-Y Toner

Company Name : Ricoh Printing Systems, Ltd.

Department : Design Dept.2, Design & Development Division 2

Address : 1-1, Higashitaga-cho 1-chome, Hitachi-City, Ibaraki-Pref. 316-8502, Japan

Telephone Number : +81-294-36-8785

Emergency Telephone Number : +81-294-36-8785

Telefax Number : +81-294-36-8979

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## 2. Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	CAS. No.	Contents (%)
Polyester Resin 1	Confidential	40~60
Polyester Resin 2	Confidential	20~40
Organic Pigment	77804-81-0	1~10
Wax	Confidential	1~8
Silica	Confidential	1~10
Organic Salt	Confidential	1~5

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## 3. Hazards Identification (Most Important Hazard)

Adverse Human Health Effects

Not applicable in normal use.

Carcinogenicity

This Product does not contain the carcinogenic substances which are listed in NTP, IARC and are regulated by OSHA.

Environmental Effects

Not applicable in normal use.

Physical and Chemical Hazards

Not applicable in normal use.

The Classification of The Chemical Product

Not applicable

#### 4. First-Aid Measures

##### Inhalation

Gargle with water, move to place in fresh air. If unsuccessful, get medical attention.

##### Skin Contact

Wash thoroughly with soap and water.

##### Eye Contact

Immediately wash eyes with plenty of water. If unsuccessful, get medical attention.

##### Ingestion

Dilute stomach contents with several glasses of water. If unsuccessful, get medical attention.

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#### 5. Fire-Fighting Measures

##### Extinguishing Media

CO<sub>2</sub>, dry chemicals, foam or water.

##### Specific Method

Generally by sprinkling or extinguisher.

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#### 6. Accidental Release Measures

##### Personal Precautions

Minimize inhalation of dust.

##### Environment Precautions

Keep product out of sewers and watercourses.

##### Methods for Cleaning Up

If spilled, sweep up or pick up by vacuum cleaner (rated for toner extraction)

---

#### 7. Handling and Storage

##### Handling (technical measures, precautions, safe handling material)

Do not handle in areas where wind blows.

Flying powder may enter eyes.

Minimize breathing dust.

##### Storage (technical measures, storage conditions, packaging material)

Avoid direct sunlight.

Do not keep this over 35 degrees centigrade.

Keep out of reach of children.

## 8. Exposure Controls/Personal Protection

### Respiratory Protections

Use an approved dust respirator for concentrations in excess of the applicable exposure limits.

### Hand Protection

Use vinyl or rubber gloves if necessary.

### Eye Protection

Put on goggles.

### Skin and Body Protection

Use Chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

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## 9. Physical and Chemical Properties

### Physical State

Form : Powder

Color : Yellow

Odour : Slightly plastic odor

### Information

pH : not applicable Measuring Temp. (°C) : —

Boiling Point (°C) : not applicable

Flash Point (°C) : not available

Explosion Properties (°C) : This product is considered a nonexplosive material under normal use condition.

Vapor Pressure(Pa) : not applicable Measuring Temp. (°C) : —

Vapor Density(AIR=1) : not applicable

Density (g/cm<sup>3</sup>) : approx. 1.2 Measuring Temp. (°C) : 25

### Solubility

Water Solubility(g/L) : Insoluble

Water Solubility Measuring Temp. (°C) : —

Other Solvent name : Chloroform

Other Solvent Solubility(g/L) : slightly soluble

Other Solvent Solubility Measuring Temp. (°C) : —

### Octanol/Water Partition Coefficient

not available

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## 10. Stability and Reactivity

### Conditions to Avoid

Not applicable in normal use.

### Materials to Avoid

Not applicable in normal use.

### Hazardous Decomposition Products

not available

## 11. Toxicological Information

### Acute Toxicity

#### Acute Oral Toxicity

Rat :  $\geq 5000$ mg/kg

#### Acute Dermal Toxicity

: not available

#### Acute Inhalation Toxicity

: not available

### Sensitization

Acute Skin Irritation(PII) :  $\leq 1.0$

Acute Eye Irritation : not available (None of ingredients is listed on hazardous characteristics list of EU.)

Acute Allergenic Effects : 0 (%) (Based on other product test results of similar ingredients.)

### Specific Effects

#### Carcinogenicity :

No data is available on this product.

Mutagenicity : negative (Ames test)

Effects on The Reproductive System : No data is available on this product.

Teratogenic : Not available.

---

## 12. Ecological Information

Persistence/Degradability : not known

### Bioaccumulation

Not known in bioaccumulation.

### Ecotoxicity

Acute Toxicity for Fish : LC50: >750 (mg/l/96hr)

Acute Toxicity for Daphnia : HC50: >100 (mg/l/48hr)

Algae Inhibition Test : EC50: >100 (mg/l/72hr)

---

## 13. Disposal Consideration

### Recommended Methods for Safe Environmentally Preferred Disposal

Used toner should be disposed of in an environmentally appropriate manner and in accordance with governmental regulations. Do not incinerate.

## 14. Transport Information

### International Regulations

RID/ADR : not applicable

DOT 49 CFR : not applicable

ADNR : not applicable

IMDG Code : not applicable

ICAO-TI/IATA-DGR : not applicable

The UN Classification Number: not applicable

### Specific Precautionary Transport Measures

Avoid direct sunlight. Do not keep this over 35 degrees centigrade.

### Specific Materials to Avoid

None in normal use.

---

## 15. Regulation Information

Follow all regulations in your country or region

INVENTORIES	: ENCS (Japan)	Yes
	TSCA (USA)	Yes
	EINECS (EU)	No (ELINCS)
	AICS (Australia)	Yes
	DSL (Canada)	No (NDSL)
	ECL (Korea)	Yes
	IECSC (China)	Yes
	PICCS (Philippines)	No

Ricoh Printing Systems, Ltd. Is not able to check up the regulatory information in regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

---

## 16. Other Information

### References:

IARC(1996) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds", Lyon, pp149-261