

## Safety Data Sheet (ISO form)

### 1. Product and Company Identification

Product Name : Print Cartridge Yellow IM C530 (Yellow toner)  
General Use : The Image Formation of Printing Machine or Copier  
SDS Number : 418243  
Company Name : Ricoh Company, Ltd.  
Department : Product Safety Engineering Department, Safety and Environmental Engineering Center, Quality Management Division  
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### 2. Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	Chemical Formula	CAS.No.	Contents(%)
Polyester Resin	Confidential	Confidential	<90
Paraffin Wax	Confidential	8002-74-2	<10
Silica	Confidential	7631-86-9	<10
Yellow Pigment	Confidential	Confidential	<10
Titanium Oxide	Confidential	13463-67-7	<1

This product does not contain any of the following substances as ingredients.

Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), SVHC (substances of very high concern: published by ECHA).

And if it contains any impurities, it does not exceed any of the thresholds of RoHS.

#### Hazardous Ingredients Information

Chemical Name : Titan Oxide

CAS Number	: 13463-67-7	EEC Number	: 236-675-5
OSHA Z-Tables (USA)	: 15mg/m3	ACGIH-TLV	: 10mg/m3
NTP (USA)	: Not listed	IARC Monographs	: Group 2B
Symbol (EU)	: Not listed	R-Phrase (EU)	: Not listed
DFG-MAK (GER)	: Not listed	OELs-TWA (Australia)	: 10mg/m3
California Proposition 65 (USA)	: Listed		

### 3. Hazards Identification

The Most Important Hazards

Adverse Human Health Effects

Not applicable in normal use.

Environmental Effects

Not applicable in normal use.

Physical and Chemical Hazards

Not applicable in normal use.

Specific Hazards

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#### Main Symptoms

Acute Inhalation Toxicity

Acute Oral Toxicity

Acute Eye Irritation

May cause slight transient irritation.

Acute Skin Irritation

May be non-irritant.

Sensitization

Chronic Effect

Carcinogenicity

Titanium dioxide contained in this product is classified to Group 2B of IARC as the result of inhalation test in use of rat.

But oral/skin test does not show carcinogenicity.

In the animal experiment with very high concentration of titanium dioxide (excessive burden of rat's lungs clearance mechanism (overload phenomenon)), the rat alone showed lung tumor. Under a normal use practice, the concentration should be far lower than the above; and it is assumed that there is no such use.

Also, relation between respiratory disease and work exposure of titanium dioxide is not observed with epidemiological survey.

The Classification of The Chemical Product

This preparation is not classified as dangerous according to Regulation (EC) No 1272/2008.

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#### 4. First-Aid Measures

Inhalation

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

Skin Contact

Wash thoroughly with soapy water.

Eye Contact

Try to remove with eye drops or flush with water. If unsuccessful, get medical attention.

Ingestion

If swallowed, rinse mouth well with water and drink plenty of water. / If necessary, seek medical advice.

Notes to a physician

Not applicable

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#### 5. Fire-Fighting Measures

Extinguishing Media

Water, foam or dry chemicals.

Extinguishing Media to Avoid

No information

Specific Hazards

Not applicable

Specific Method

No special fire protecting method is required. Sprinkling or fire extinguishers can be used.; No special fire protecting method is required. Sprinkling or fire extinguishers can be used.

Protection of Fire-fighters

Wear gloves, glasses, a mask if necessary.; Wear gloves, glasses, a mask if necessary.

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#### 6. Accidental Release Measures

Personal Precautions

Do not breathe in dust.

Environment Precautions

Do not flush into sewers or watercourses.

Methods for Cleaning Up

Make sure there is no open flame around.

In the case of a small amount, wipe with a broom or wipe with a cloth dampened with soapy water.

Do not vacuum spilled toner with a vacuum cleaner. (If a vacuum cleaner is used, fine particles of toner may fill the inside of the vacuum cleaner, causing a fire or explosion due to sparks at the electrical contacts.)

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## 7. Handling and Storage

### Handling

#### Technical Measures/Precautions

Not applicable

#### Safe Handling Advice

Never throw it into a fire. Do not smash or disassemble the cartridge.

Flying powder may enter eyes.

Minimize breathing dust.

### Storage

#### Technical Measures

Not applicable

#### Storage Conditions

Avoid direct sunlight.

Do not keep this over 35°C.

Keep out of reach of children.

#### Packaging Material

Use our packaging materials.

### Specific Use(s)

Image formation in printing machines or copiers ; Image formation in printing machines or copiers. ; Image formation in printing machines or copiers.

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## 8. Exposure Controls/Personal Protection

### Technical Measures

None required in normal use.

### Control Parameters

USA OSHA PEL (TWA) : 15mg/m3 (Total dust) 5.0mg/m3 (Respirable fraction)

ACGIH TLV (TWA) : 10mg/m3 (Inhalable fraction) 3.0mg/m3 (Respirable fraction)

DFG MAK : 4.0mg/m3 (Total dust) 1.5mg/m3 (Respirable fraction)

### Personal Protection

#### Respiratory Protections

None required in normal use.

#### Hand Protection

None required in normal use.

#### Eye Protection

None required in normal use.

#### Skin and Body Protection

None required in normal use.

#### Hygiene Measures

Wash hands after handling.

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## 9. Physical and Chemical Properties

### Appearance

Physical State : powder

Form : Powder

Colour : Yellow

Odour : Slightly plastic odour

### Information

pH : Not applicable

### Specific Temperatures/Temperature Ranges at Which Changes in Physical State Occur

Boiling Point (degrees centigrade) : Not applicable

Melting Point (degrees centigrade) : Not available

Decomposition Temperature (degrees centigrade) : Not available

Flash Point (degrees centigrade) : Not applicable

Explosion Properties (degrees centigrade) : This product is considered a nonexplosive material under normal use.

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Vapor Pressure (Pa) : **Not applicable**  
Vapor Density(AIR=1) : **Not applicable**  
Density (g/cm<sup>3</sup>) : **Not available** Measuring Temp (degrees centigrade) :  
Solubility  
Water Solubility (g/L) : **Insoluble**  
Octanol/Water Partition Coefficient  
**Not available**  
Other Information  
Flammability : **Not available**  
Viscosity (Pa·s) : **Not applicable**  
Volatile (%) : **Not available**

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## 10. Stability and Reactivity

Stability  
**Stable**  
Hazardous Reaction  
**Dust explosion, like most finely grained organic powders.; Dust explosion, like most finely grained organic powders.; There is no significant hazardous reaction expected with intended use.**  
Conditions to Avoid  
**Not applicable in normal use.**  
Materials to Avoid  
**Not applicable in normal use.**  
Hazardous Decomposition Products  
**Decomposition products will not occur.**

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## 11. Toxicological Information

Acute Toxicity  
Acute Oral Toxicity (LD50) :  
**2000 over [mg/kg] (Rat)**  
Acute Dermal Toxicity :  
**Not available**  
Acute Inhalation Toxicity :  
**Not available**  
Local effects  
Acute Skin Irritation(PII) :  
**Non-irritant**  
Acute Eye Irritation :  
**Not applied (None of hazardous situation will be caused under normal use condition.)**  
Sensitization  
Acute Allergenic Effects :  
**0 %**  
Specific Effects  
Carcinogenicity :  
  
Mutagenicity (Ames test) : **Negative (Ames test)**  
Reproduction Toxicity : **No data is available on this product**

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## 12. Ecological Information

Mobility : No data are available on any adverse effects on the environment.  
Persistence/Degradability : Not available  
Bioaccumulation : Not available  
Ecotoxicity  
Acute Toxicity for Fish (LC50) : Not classified as toxic ((EC) No 1272/2008)  
Acute Toxicity for Daphnia (EC50) : Not classified as toxic ((EC) No 1272/2008)  
Algae Inhibition Test (IC50) : Not classified as toxic ((EC) No 1272/2008)

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## 13. Disposal Consideration

General information:

Dispose of waste and residues in accordance with local authority requirements.

Disposal methods:

Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Confirm disposal procedures with local regulations.

Precautions:

Do not throw the cartridge or developer unit or plastic bag or developer into an open flame. Hot toner included in developer may scatter and cause burns or other damage.

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## 14. Transport Information

International Regulations

Land Transport

RID/ADR : Not applicable  
DOT 49 CFR : Not applicable  
ADNR : Not applicable

Sea Transport

IMDG Code : Not applicable

Air Transport

ICAO-TI/IATA-DGR : Not applicable

The UN Classification Number : Not applicable

Class : Not applicable

Specific Precautionary Transport Measures and conditions

Avoid direct sunlight in quality.

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## 15. Regulatory Information

Regulations

EU Information

Information on the label (Regulation (EC) No 1272/2008)

Symbols & Indications : Not required

R-Phrase : Not required

S-Phrase : Not required

(EC) No 1907/2006 Annex XVII

This product complies with applicable rules and regulations under (EC) No 1907/2006 Annex XVII

(EC) No. 689/2008

Not regulated

US Information

Information on the label : Not required

TSCA (Toxic Substances Control Act) :

This product complies with all applicable rules and regulations under TSCA.

SARA Title III

313 Reportable Ingredients : Not regulated

California Proposition 65 : Not regulated

Canada Information

WHMIS Controlled product : Not a controlled product

## 16. Other Information

NFPA Hazard Rating: National Fire Protection Agency (USA)

Health ; 1, Flammability ; 1, Reactivity ; 0

HMIS Rating : The National Paint and Coating Association (USA)

Health ; 1, Flammability ; 1, Reactivity ; 0

Literature References :

ANSI Z400.1-1993

ISO 11014-1

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

H. Muhle, B. Bellman, O. Creutzenberg, C. Dasenbrock, H. Emst, R. Kilpper, J.C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka and R. Mermelstein(1991) "Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats" Fundamental and Applied Toxicology 17, pp 280-299

IARC (2008) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.93" NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"

ACGIH-TLV : Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices

OSHA Z-Tables : US Department of Labor, 29CFR Part 1910 , Tables Z-1, Z-2, and Z-3

NTP (USA) : US Department of Health and Human Services National Toxicology Program Annual Report on Carcinogens

DFG-MAK : DFG List of MAK and BAT Value

Symbol (EC) : Regulation (EC) No 1272/2008

91/155/ EEC : EU Directive 91/155/ EEC

(EC) No 1907/2006 Annex : Regulation (EC) No 1907/2006 Annex XVII

XVII

(EC) No. 689/2008 : Regulation (EC) No 689/2008

WHMIS Controlled product : Canada Workplace Hazardous Information System

OELs-TWA (Australia) : Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 3008 (1995)]

Abbreviations :

OSHA PEL : PEL (Permissible Exposure Limit) under Occupational Safety and Health Act

ACGIH-TLV : TLV (Threshold Limit Values) under American Conference of Governmental Industrial Hygienists

REACH : (EC)No.1907/2006:Council Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals

SVHC : Substances of Very High Concern

ECHA : The European Chemicals Agency

DFG-MAK : MAK (Maximale Arbeitsplatz Konzentrationen) by Deutsche Forschungs Gemeinschaft

RoHS : Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment

TWA : Time Weighted Average

IARC : International Agency for Research on Cancer

NTP : National Toxicology Program

WHMIS : Workplace Hazardous Information System

NOHSC : National Occupational Health and Safety Commission Act 1985

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