



Cover: Safety Data Sheet (SDS)

The attached Safety Data Sheet is for the information of users of this product.

The SDS sheets are prepared by RICOH Japan, and cannot be altered.

The material referred to in this SDS is classified as:

Non-Hazardous.

Whilst the materials used in the manufacture of this product are not in sufficient quantities to be harmful, please observe the manufacturer's cautions when handling the product.

For first aid information contact:

POISONS INFORMATION CENTRE

24 Hour Emergency Number: 13 11 26

For all SDS Information please refer to the Ricoh website:

www.ricoh.com.au

Ricoh Australia Pty Ltd
2 Richardson Place ,
North Ryde
New South Wales 2113
Australia.
Telephone (61-2-8977 1111)
Fax (61-2-8977 1120)

Product Name : [Print Cartridge Cyan MP C3503S](#) MSDS Number : [841832](#)
 Date Prepared : [29/05/2017](#) Date Modified : [10/07/2017](#) Date : [12/07/2017](#)



Safety Data Sheet (ISO GHS - Australia - form)

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Name : [Print Cartridge Cyan MP C3503S \(Cyan toner\)](#)
 General Use : [The Image Formation of Printing Machine or Copier](#)
 Product : [Toner Cartridge](#)
 Description
 MSDS Number : [841832](#)

Company / Undertaking Identification

Company Name : [Ricoh Company,Ltd.](#)
 Department : [Safety and Reliability Engineering Department, Quarity Management Divison](#)
 Address : [146-1 Nishisawada, Numazu-shi, Shizuoka-ken, 410-0007, Japan](#)
 Telephone Number : [055-920-1470, Japan](#)
 Telefax Number : [055-920-1479, Japan](#)
 Emergency Telephone Number : [055-920-1470, Japan](#)
 E-mail : msdsinfo@nts.ricoh.co.jp

2. Hazards Identification

Classification

PHYSICAL HAZARD(S)	EXPLOSIVES	Classification not possible
	FLAMMABLE GASES	Not Applicable
	FLAMMABLE AEROSOLS	Not Applicable
	OXIDIZING GASES	Not Applicable
	GASES UNDER PRESSURE	Not Applicable
	FLAMMABLE LIQUIDS	Not Applicable
	FLAMMABLE SOLIDS	Classification not possible
	SELF-REACTIVE SUBSTANCES AND MIXTURES	Not Applicable
	PYROPHORIC LIQUIDS	Not Applicable
	PYROPHORIC SOLIDS	Classification not possible
	SELF-HEATING SUBSTANCES AND MIXTURES	Classification not possible
	SUBSTANCES AND MIXTURES, WHICH ON CONTACT WITH WATER,	Classification not possible

	EMIT FLAMMABLE GASES	
	OXIDIZING LIQUIDS	Not Applicable
	OXIDIZING SOLIDS	Classification not possible
	ORGANIC PEROXIDES	Classification not possible
	CORROSIVE TO METALS	Classification not possible
HEALTH HAZARD(S)	ACUTE TOXICITY(ORAL)	Not Classified
	ACUTE TOXICITY(DERMAL)	Classification not possible
	ACUTE TOXICITY (INHALATION - GAS)	Not Applicable
	ACUTE TOXICITY (INHALATION - VAPOUR)	Not Applicable
	ACUTE TOXICITY (INHALATION - DUST AND MIST)	Classification not possible
	SKIN CORROSION/IRRITATION	Not Classified
	SERIOUS EYE DAMAGE/EYE IRRITATION	Not Classified
	RESPIRATORY SENSITIZER	Classification not possible
	SKIN SENSITIZER	Not Classified
	GERM CELL MUTAGENICITY	Classification not possible
	CARCINOGENICITY	Classification not possible
	TOXIC TO REPRODUCTION	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING SINGLE EXPOSURE	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING REPEAT EXPOSURE	Classification not possible
	ASPIRATION HAZARD	Classification not possible
	ENVIRONMENTSL HAZARD(S)	ACUTE HAZARDS TO THE AQUATIC ENVIRONMENT
CHRONIC HAZARDS TO THE AQUATIC ENVIRONMENT		Classification not possible
HAZARDOUS TO THE OZONE LAYER		Classification not possible



Label element

Pictogram:	
Signal word(s):	Not applicable
Hazard statement(s):	Not applicable
Precautionary statement(s)	Not applicable
【Prevention】	
【Response】	Not applicable
【Storage】	Not applicable
【Disposal】	Not applicable

Specific Hazards

[Dust explosion \(like most finely grained organic powders\)](#)

3.Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	Chemical Formula	CAS.No.	Contents(%)
Polyester Resin	Confidential	Confidential	60-90
Wax	Confidential	Confidential	1-20
Organic Pigment	C32H16CuN8	147-14-8	1-20
Titan Oxide	TiO2	13463-67-7	0.1-1
Silica	O2Si	7631-86-9	<10

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

[Cadmium](#), [Hexavalent Chromium](#), [Mercury](#), [Lead](#), [Polybrominated biphenyls \(PBB\)](#), [Polybrominated](#)

diphenyleters (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)	: Not listed		



4. First-Aid Measures

Inhalation

Remove from exposure to fresh air and rinse mouth with water. Seek medical advice.

Skin Contact

Wash thoroughly with soapy water.

Eye Contact

Flush with a large amount of water until particle is removed. Seek medical advice.

Ingestion

Drink several glasses of water to dilute ingested toner. Seek medical advice.

Notes to a physician

Not applicable

Most important symptoms/effects, acute, and delayed

Not available

Indication of immediate medical attention and special treatment needed, if necessary

Immediate medical attention is not required.

5. Fire-Fighting Measures

Extinguishing Media

CO₂, dry chemicals, foam or water.

Extinguishing Media to Avoid

Not applicable

Specific Hazards

Can form explosive dust-air mixtures when finely dispersed in air.

Specific Method

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.

6. Accidental Release Measures

Personal Precautions

Do not breathe in dust.

Environment Precautions

Do not flush into sewers or watercourses.

Methods for Cleaning Up

Fine powder may form explosive dust-air mixture.

Confirm there is no source of fire and if there is a source, remove it. Sweep up spilled powder slowly and clean remainder with wet cloth. If a vacuum cleaner is used, a dust explosion-proof type must be chosen.



7. Handling and Storage

Handling

Technical Measures/Precautions

[Not applicable](#)

Safe Handling Advice

[Do not handle in areas where there is wind or draught, this may cause dust to get into eyes.](#)

[Avoid breathing in dust.](#)

Storage

Technical Measures

[Not applicable](#)

Storage Conditions

[Keep out of reach of children.](#)

[Store in dry, well-ventilated area, to maintain quality the temperature should not exceed 35°C for a long time. Avoid direct sunlight.](#)

Packaging Material

[Not applicable](#)

Specific Use(s)

[Image formation in printing machines or copiers.](#)

8. Exposure Controls/Personal Protection

Technical Measures

[Use adequate ventilation. None required with intended 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. If the limit of exposure concentration is exceeded, use authorised respirator.](#)

Hand Protection

Use vinyl or rubber gloves if necessary.

Eye Protection

Put on goggles if necessary.

Skin and Body Protection

Wear chemical-resistant apron or other impervious clothing if necessary.

Hygiene Measures

Wash hands after handling

9. Physical and Chemical Properties

Appearance

Physical State : Solid

Form : Powder

Colour : Cyan

Odour : Slightly plastic odour

Odour : Not available

Threshold

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) : (Softening point) Approx.90

Auto-Ignition Temperature : 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.

Product Name : Print Cartridge Cyan MP C3503S MSDS Number : 841832
Date Prepared : 29/05/2017 Date Modified : 10/07/2017 OutputDate : 12/07/2017

RICOH

Evaporation Rate : Not applicable
Vapor Pressure (Pa) : Not applicable
:
Vapor : Not applicable
Density(AIR=1) :
Density (g/cm3) : Approx.1.2 Measuring Temp (degrees centigrade) : 25
:
Solubility
Water Solubility (g/L) : Insoluble
Chloroform Solubility (g/L) : Slightly soluble
Octanol/Water Partition Coefficient
Not available
Other Information
Flammability : Not flammable
Upper/Lower Flammability or Explosive
Limits
Upper Flammability or Explosive Limits : Not available
(g/m3)
Lower Flammability or Explosive Limits : Not available
(g/m3)
Viscosity (Pa·s) : Not applicable
Volatile (%) : 0.2 or below

10.Stability and Reactivity

Stability
Stable
Hazardous Reaction
Dust explosion, like most finely grained organic powders.
Conditions to Avoid

Not applicable in normal use.

Materials to Avoid

Not applicable in normal use condition.

Hazardous Decomposition Products

Decomposition products will not occur.

11. Toxicological Information

Acute Toxicity

Acute Oral Toxicity (LD50) :

5000 or over [mg/kg] (Rat)

Acute Dermal Toxicity :

Not available

Acute Inhalation Toxicity :

Not applicable (Based on other Ricoh products test results of similar ingredients.)

Local effects

Acute Skin Irritation(PII) :

1.0 or below (Rabbit) (Based on other Ricoh products test results of similar ingredients.)

Acute Eye Irritation :

Non-irritant (Rabbit) (Based on other Ricoh products test results of similar ingredients.)

Sensitization

Acute Allergenic Effects :

Non-skinsensitive (Mouse) (Based on other Ricoh products test results of similar ingredients.)

Specific Effects

Carcinogenicity :

Titanium dioxide contained in this product are 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.

Mutagenicity : Negative (Ames test)

Reproduction Toxicity : Does not contain substances listed as hazardous to reproductive health.

Specific target organ

toxicity-single exposure

Specific target organ
toxicity-repeated exposure

Aspiration hazard

[Does not contain substances listed as hazardous to reproductive health.](#)

Symptoms related to the physical, chemical and toxicological characteristics

[Not available](#)



12. Ecological Information

Mobility : [No data are available on the adverse effect one environment.](#)
Persistence/Degradability : [Not available](#)
Bioaccumulation : [Not available](#)
Ecotoxicity
Acute Toxicity for Fish (LC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/96hr](#)
Acute Toxicity for Daphnia (EC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/48hr](#)
Algae Inhibition Test (IC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/72hr](#)
Other Advers Effects : [Not available](#)

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 toner cartridge or toner into an open flame. The hot toner may scatter and cause burns or other damage.](#)

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 : Not applicable
Number
UN Proper Shipping Name : Not applicable
Class : Not applicable
Packing Group, If Applicable : Not applicable
Specific Precautionary Transport Measures and conditions
Avoid direct sunlight in quality.

15.Regulatory Information

Regulations

EU Information

Information on the label (1999/45/EC and 67/548/EEC)

Symbols & Indications : Not required

R-Phrase : Not required

S-Phrase : Not required

Special Precautions under 1999/45/EC Annex V : Not required

76/769/EEC

This product complies with applicable rules and regulations under 76/769/EEC

304/2003/EC

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

Date Prepared : [2017/05/29](#)

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) : EU Directive 67/548/EEC

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

1999/45/EC Annex V : EU Directive 1999/45/EC

76/769/ EEC : EU Directive 76/769/ EEC

EC 304/2003 : Regulation (EC) No 304/2003 of the European Parliament and of the Council of 28 January 2003 concerning the export and import of dangerous

chemicals
WHMIS Controlled : Canada Workplace Hazardous Information System
product
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

Disclaimer :

This information is furnished without warranty, express or implied, except that it is accurate to the best
knowledge of RICOH COMPANY, LTD.
It relates only to the specific material designated herein, and does not relate to use in combination with
any other material or process.
RICOH COMPANY, LTD assumes no legal responsibility for use or reliance upon this information.



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The material referred to in this SDS is classified as:

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POISONS INFORMATION CENTRE

24 Hour Emergency Number: 13 11 26

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2 Richardson Place ,
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Safety Data Sheet (ISO GHS - Australia - form)

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Name : [Print Cartridge Magenta MP C3503S \(Magenta toner\)](#)
 General Use : [The Image Formation of Printing Machine or Copier](#)
 Product : [Toner Cartridge](#)
 Description
 MSDS Number : [841831](#)

Company / Undertaking Identification

Company Name : [Ricoh Company,Ltd.](#)
 Department : [Safety and Reliability Engineering Department, Quality Management Division](#)
 Address : [146-1 Nishisawada, Numazu-shi, Shizuoka-ken, 410-0007, Japan](#)
 Telephone Number : [055-920-1470, Japan](#)
 Telefax Number : [055-920-1479, Japan](#)
 Emergency Telephone Number : [055-920-1470, Japan](#)
 E-mail : msdsinfo@nts.ricoh.co.jp

2. Hazards Identification

Classification

PHYSICAL HAZARD(S)	EXPLOSIVES	Classification not possible
	FLAMMABLE GASES	Not Applicable
	FLAMMABLE AEROSOLS	Not Applicable
	OXIDIZING GASES	Not Applicable
	GASES UNDER PRESSURE	Not Applicable
	FLAMMABLE LIQUIDS	Not Applicable
	FLAMMABLE SOLIDS	Classification not possible
	SELF-REACTIVE SUBSTANCES AND MIXTURES	Not Applicable
	PYROPHORIC LIQUIDS	Not Applicable
	PYROPHORIC SOLIDS	Classification not possible
	SELF-HEATING SUBSTANCES AND MIXTURES	Classification not possible
	SUBSTANCES AND MIXTURES, WHICH ON CONTACT WITH WATER,	Classification not possible

	EMIT FLAMMABLE GASES	
	OXIDIZING LIQUIDS	Not Applicable
	OXIDIZING SOLIDS	Classification not possible
	ORGANIC PEROXIDES	Classification not possible
	CORROSIVE TO METALS	Classification not possible
HEALTH HAZARD(S)	ACUTE TOXICITY(ORAL)	Not Classified
	ACUTE TOXICITY(DERMAL)	Classification not possible
	ACUTE TOXICITY (INHALATION - GAS)	Not Applicable
	ACUTE TOXICITY (INHALATION - VAPOUR)	Not Applicable
	ACUTE TOXICITY (INHALATION - DUST AND MIST)	Classification not possible
	SKIN CORROSION/IRRITATION	Not Classified
	SERIOUS EYE DAMAGE/EYE IRRITATION	Not Classified
	RESPIRATORY SENSITIZER	Classification not possible
	SKIN SENSITIZER	Not Classified
	GERM CELL MUTAGENICITY	Classification not possible
	CARCINOGENICITY	Classification not possible
	TOXIC TO REPRODUCTION	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING SINGLE EXPOSURE	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING REPEAT EXPOSURE	Classification not possible
	ASPIRATION HAZARD	Classification not possible
	ENVIRONMENTSL HAZARD(S)	ACUTE HAZARDS TO THE AQUATIC ENVIRONMENT
CHRONIC HAZARDS TO THE AQUATIC ENVIRONMENT		Classification not possible
HAZARDOUS TO THE OZONE LAYER		Classification not possible



Label element

Pictogram:	
Signal word(s):	Not applicable
Hazard statement(s):	Not applicable
Precautionary statement(s)	Not applicable
【Prevention】	
【Response】	Not applicable
【Storage】	Not applicable
【Disposal】	Not applicable

Specific Hazards

[Dust explosion \(like most finely grained organic powders\)](#)

3.Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	Chemical Formula	CAS.No.	Contents(%)
Polyester Resin	Confidential	Confidential	60-90
Wax	Confidential	Confidential	1-20
Organic Pigment	Confidential	Confidential	1-20
Titan Oxide	TiO2	13463-67-7	0.1-1
Silica	O2Si	7631-86-9	<10

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

[Cadmium](#), [Hexavalent Chromium](#), [Mercury](#), [Lead](#), [Polybrominated biphenyls \(PBB\)](#), [Polybrominated](#)

diphenyleters (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)	: Not listed		



4. First-Aid Measures

Inhalation

Remove from exposure to fresh air and rinse mouth with water. Seek medical advice.

Skin Contact

Wash thoroughly with soapy water.

Eye Contact

Flush with a large amount of water until particle is removed. Seek medical advice.

Ingestion

Drink several glasses of water to dilute ingested toner. Seek medical advice.

Notes to a physician

Not applicable

Most important symptoms/effects, acute, and delayed

Not applicable

Indication of immediate medical attention and special treatment needed, if necessary

Immediate medical attention is not required.

5. Fire-Fighting Measures

Extinguishing Media

CO₂, dry chemicals, foam or water.

Extinguishing Media to Avoid

Not applicable

Specific Hazards

Can form explosive dust-air mixtures when finely dispersed in air.

Specific Method

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.

6. Accidental Release Measures

Personal Precautions

Do not breathe in dust.

Environment Precautions

Do not flush into sewers or watercourses.

Methods for Cleaning Up

Fine powder may form explosive dust-air mixture.

Confirm there is no source of fire and if there is a source, remove it. Sweep up spilled powder slowly and clean remainder with wet cloth. If a vacuum cleaner is used, a dust explosion-proof type must be chosen.



7. Handling and Storage

Handling

Technical Measures/Precautions

[Not applicable](#)

Safe Handling Advice

[Do not handle in areas where there is wind or draught, this may cause dust to get into eyes.](#)

[Avoid breathing in dust.](#)

Storage

Technical Measures

[Not applicable](#)

Storage Conditions

[Keep out of reach of children.](#)

[Store in dry, well-ventilated area, to maintain quality the temperature should not exceed 35°C for a long time. Avoid direct sunlight.](#)

Packaging Material

[Not applicable](#)

Specific Use(s)

[Image formation in printing machines or copiers.](#)

8. Exposure Controls/Personal Protection

Technical Measures

[Use adequate ventilation. None required with intended 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. If the limit of exposure concentration is exceeded, use authorised respirator.](#)

Hand Protection

Use vinyl or rubber gloves if necessary.

Eye Protection

Put on goggles if necessary.

Skin and Body Protection

Wear chemical-resistant apron or other impervious clothing if necessary.

Hygiene Measures

Wash hands after handling

9. Physical and Chemical Properties

Appearance

Physical State : Solid

Form : Powder

Colour : Magenta

Odour : Slightly plastic odour

Odour : Not available

Threshold

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) : (Softening point) Approx.90

Auto-Ignition Temperature : 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.

Product Name : [Print Cartridge Magenta MP C3503S](#) MSDS Number : [841831](#)
Date Prepared : [29/05/2017](#) Date Modified : [10/07/2017](#) OutputDate : [12/07/2017](#)

RICOH

Evaporation Rate : [Not applicable](#)
Vapor Pressure (Pa) : [Not applicable](#)
:
Vapor : [Not applicable](#)
Density(AIR=1) :
Density (g/cm3) : [Approx.1.2](#) Measuring Temp (degrees centigrade) : [25](#)
:

Solubility
[Water](#) Solubility (g/L) : [Insoluble](#)
[Chloroform](#) Solubility (g/L) : [Slightly soluble](#)
Octanol/Water Partition Coefficient
[Not available](#)

Other Information
Flammability : [Not flammable](#)
Upper/Lower Flammability or Explosive
Limits
Upper Flammability or Explosive Limits : [Not available](#)
(g/m3)
Lower Flammability or Explosive Limits : [Not available](#)
(g/m3)
Viscosity (Pa·s) : [Not applicable](#)
Volatile (%) : [0.2 or below](#)

10.Stability and Reactivity

Stability
[Stable](#)
Hazardous Reaction
[Dust explosion, like most finely grained organic powders.](#)
Conditions to Avoid

Not applicable in normal use.
Materials to Avoid
Not applicable in normal use condition.
Hazardous Decomposition Products
Decomposition products will not occur.

11. Toxicological Information

Acute Toxicity

Acute Oral Toxicity (LD50) :
5000 or over [mg/kg] (Rat)

Acute Dermal Toxicity :
Not available

Acute Inhalation Toxicity :
Not applicable (Based on other Ricoh products test results of similar ingredients.)

Local effects

Acute Skin Irritation(PII) :
1.0 or below (Rabbit) (Based on other Ricoh products test results of similar ingredients.)

Acute Eye Irritation :
Non-irritant (Based on other Ricoh products test results of similar ingredients.)

Sensitization

Acute Allergenic Effects :
Non-skinsensitive (Mouse) (Based on other Ricoh products test results of similar ingredients.)

Specific Effects

Carcinogenicity :
Titanium dioxide contained in this product are 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.

Mutagenicity : Negative (Ames test)

Reproduction Toxicity : Does not contain substances listed as hazardous to reproductive health.

Spacific target organ
toxicity-single exposure

Specific target organ
toxicity-repeated exposure

Aspiration hazard

[Does not contain substances listed as hazardous to reproductive health.](#)

Symptoms related to the physical, chemical and toxicological characteristics

[Not available](#)



12. Ecological Information

Mobility : [No data are available on the adverse effect one environment.](#)
Persistence/Degradability : [Not available](#)
Bioaccumulation : [Not available](#)
Ecotoxicity
Acute Toxicity for Fish (LC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/96hr](#)
Acute Toxicity for Daphnia (EC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/48hr](#)
Algae Inhibition Test (IC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/72hr](#)
Other Advers Effects : [Not available](#)

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 toner cartridge or toner into an open flame. The hot toner may scatter and cause burns or other damage.](#)

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 : Not applicable
Number
UN Proper Shipping Name : Not applicable
Class : Not applicable
Packing Group, If Applicable : Not applicable
Specific Precautionary Transport Measures and conditions
Avoid direct sunlight in quality.

15.Regulatory Information

Regulations

EU Information

Information on the label (1999/45/EC and 67/548/EEC)

Symbols & Indications : Not required

R-Phrase : Not required

S-Phrase : Not required

Special Precautions under 1999/45/EC Annex V : Not required

76/769/EEC

This product complies with applicable rules and regulations under 76/769/EEC

304/2003/EC

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

Date Prepared : [2017/05/29](#)

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) : EU Directive 67/548/EEC

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

1999/45/EC Annex V : EU Directive 1999/45/EC

76/769/ EEC : EU Directive 76/769/ EEC

EC 304/2003 : Regulation (EC) No 304/2003 of the European Parliament and of the Council of 28 January 2003 concerning the export and import of dangerous

chemicals
WHMIS Controlled : Canada Workplace Hazardous Information System
product
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

Disclaimer :

This information is furnished without warranty, express or implied, except that it is accurate to the best
knowledge of RICOH COMPANY, LTD.
It relates only to the specific material designated herein, and does not relate to use in combination with
any other material or process.
RICOH COMPANY, LTD assumes no legal responsibility for use or reliance upon this information.



Cover: Safety Data Sheet (SDS)

The attached Safety Data Sheet is for the information of users of this product.

The SDS sheets are prepared by RICOH Japan, and cannot be altered.

The material referred to in this SDS is classified as:

Non-Hazardous.

Whilst the materials used in the manufacture of this product are not in sufficient quantities to be harmful, please observe the manufacturer's cautions when handling the product.

For first aid information contact:

POISONS INFORMATION CENTRE

24 Hour Emergency Number: 13 11 26

For all SDS Information please refer to the Ricoh website:

www.ricoh.com.au

Ricoh Australia Pty Ltd
2 Richardson Place ,
North Ryde
New South Wales 2113
Australia.
Telephone (61-2-8977 1111)
Fax (61-2-8977 1120)

Safety Data Sheet (ISO GHS - Australia - form)

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Name : [Print Cartridge Yellow MP C3503S \(Yellow toner\)](#)
 General Use : [The Image Formation of Printing Machine or Copier](#)
 Product : [Toner Cartridge](#)
 Description
 MSDS Number : [841830](#)

Company / Undertaking Identification

Company Name : [Ricoh Company,Ltd.](#)
 Department : [Safety and Reliability Engineering Department, Quarity Management Divison](#)
 Address : [146-1 Nishisawada, Numazu-shi, Shizuoka-ken, 410-0007, Japan](#)
 Telephone Number : [055-920-1470, Japan](#)
 Telefax Number : [055-920-1479, Japan](#)
 Emergency Telephone Number : [055-920-1470, Japan](#)
 E-mail : msdsinfo@nts.ricoh.co.jp

2. Hazards Identification

Classification

PHYSICAL HAZARD(S)	EXPLOSIVES	Classification not possible
	FLAMMABLE GASES	Not Applicable
	FLAMMABLE AEROSOLS	Not Applicable
	OXIDIZING GASES	Not Applicable
	GASES UNDER PRESSURE	Not Applicable
	FLAMMABLE LIQUIDS	Not Applicable
	FLAMMABLE SOLIDS	Classification not possible
	SELF-REACTIVE SUBSTANCES AND MIXTURES	Not Applicable
	PYROPHORIC LIQUIDS	Not Applicable
	PYROPHORIC SOLIDS	Classification not possible
	SELF-HEATING SUBSTANCES AND MIXTURES	Classification not possible
	SUBSTANCES AND MIXTURES, WHICH ON CONTACT WITH WATER,	Classification not possible

	EMIT FLAMMABLE GASES	
	OXIDIZING LIQUIDS	Not Applicable
	OXIDIZING SOLIDS	Classification not possible
	ORGANIC PEROXIDES	Classification not possible
	CORROSIVE TO METALS	Classification not possible
HEALTH HAZARD(S)	ACUTE TOXICITY(ORAL)	Not Classified
	ACUTE TOXICITY(DERMAL)	Classification not possible
	ACUTE TOXICITY (INHALATION - GAS)	Not Applicable
	ACUTE TOXICITY (INHALATION - VAPOUR)	Not Applicable
	ACUTE TOXICITY (INHALATION - DUST AND MIST)	Classification not possible
	SKIN CORROSION/IRRITATION	Not Classified
	SERIOUS EYE DAMAGE/EYE IRRITATION	Not Classified
	RESPIRATORY SENSITIZER	Classification not possible
	SKIN SENSITIZER	Not Classified
	GERM CELL MUTAGENICITY	Classification not possible
	CARCINOGENICITY	Classification not possible
	TOXIC TO REPRODUCTION	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING SINGLE EXPOSURE	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING REPEAT EXPOSURE	Classification not possible
	ASPIRATION HAZARD	Classification not possible
	ENVIRONMENTSL HAZARD(S)	ACUTE HAZARDS TO THE AQUATIC ENVIRONMENT
CHRONIC HAZARDS TO THE AQUATIC ENVIRONMENT		Classification not possible
HAZARDOUS TO THE OZONE LAYER		Classification not possible



Label element

Pictogram:	
Signal word(s):	Not applicable
Hazard statement(s):	Not applicable
Precautionary statement(s)	Not applicable
【Prevention】	
【Response】	Not applicable
【Storage】	Not applicable
【Disposal】	Not applicable

Specific Hazards

[Dust explosion \(like most finely grained organic powders\)](#)

3.Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	Chemical Formula	CAS.No.	Contents(%)
Polyester Resin	Confidential	Confidential	60-90
Wax	Confidential	Confidential	1-20
Organic Pigment	Confidential	Confidential	1-20
Titan Oxide	TiO2	13463-67-7	0.1-1
Silica	O2Si	7631-86-9	<10

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

[Cadmium](#), [Hexavalent Chromium](#), [Mercury](#), [Lead](#), [Polybrominated biphenyls \(PBB\)](#), [Polybrominated](#)

diphenyleters (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)	: Not listed		



4. First-Aid Measures

Inhalation

Remove from exposure to fresh air and rinse mouth with water. Seek medical advice.

Skin Contact

Wash thoroughly with soapy water.

Eye Contact

Flush with a large amount of water until particle is removed. Seek medical advice.

Ingestion

Drink several glasses of water to dilute ingested toner. Seek medical advice.

Notes to a physician

Not applicable

Most important symptoms/effects, acute, and delayed

Not applicable

Indication of immediate medical attention and special treatment needed, if necessary

Immediate medical attention is not required.

5. Fire-Fighting Measures

Extinguishing Media

CO₂, dry chemicals, foam or water.

Extinguishing Media to Avoid

Not applicable

Specific Hazards

Can form explosive dust-air mixtures when finely dispersed in air.

Specific Method

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.

6. Accidental Release Measures

Personal Precautions

Do not breathe in dust.

Environment Precautions

Do not flush into sewers or watercourses.

Methods for Cleaning Up

Fine powder may form explosive dust-air mixture.

Confirm there is no source of fire and if there is a source, remove it. Sweep up spilled powder slowly and clean remainder with wet cloth. If a vacuum cleaner is used, a dust explosion-proof type must be chosen.



7. Handling and Storage

Handling

Technical Measures/Precautions

[Not applicable](#)

Safe Handling Advice

[Do not handle in areas where there is wind or draught, this may cause dust to get into eyes.](#)

[Avoid breathing in dust.](#)

Storage

Technical Measures

[Not applicable](#)

Storage Conditions

[Keep out of reach of children.](#)

[Store in dry, well-ventilated area, to maintain quality the temperature should not exceed 35°C for a long time. Avoid direct sunlight.](#)

Packaging Material

[Not applicable](#)

Specific Use(s)

[Image formation in printing machines or copiers.](#)

8. Exposure Controls/Personal Protection

Technical Measures

[Use adequate ventilation. None required with intended 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. If the limit of exposure concentration is exceeded, use authorised respirator.](#)

Hand Protection

Use vinyl or rubber gloves if necessary.

Eye Protection

Put on goggles if necessary.

Skin and Body Protection

Wear chemical-resistant apron or other impervious clothing if necessary.

Hygiene Measures

Wash hands after handling

9. Physical and Chemical Properties

Appearance

Physical State : Solid

Form : Powder

Colour : Yellow

Odour : Slightly plastic odour

Odour : Not available

Threshold

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) : (Softening point) Approx.90

Auto-Ignition Temperature : 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.

Product Name : [Print Cartridge Yellow MP C3503S](#) MSDS Number : [841830](#)
Date Prepared : [29/05/2017](#) Date Modified : [10/07/2017](#) OutputDate : [12/07/2017](#)

RICOH

Evaporation Rate : [Not applicable](#)
Vapor Pressure (Pa) : [Not applicable](#)
:
Vapor : [Not applicable](#)
Density(AIR=1) :
Density (g/cm3) : [Approx.1.2](#) Measuring Temp (degrees centigrade) : [25](#)
:
Solubility
[Water](#) Solubility (g/L) : [Insoluble](#)
[Chloroform](#) Solubility (g/L) : [Slightly soluble](#)
Octanol/Water Partition Coefficient
[Not available](#)
Other Information
Flammability : [Not flammable](#)
Upper/Lower Flammability or Explosive
Limits
Upper Flammability or Explosive Limits : [Not available](#)
(g/m3)
Lower Flammability or Explosive Limits : [Not available](#)
(g/m3)
Viscosity (Pa·s) : [Not applicable](#)
Volatile (%) : [0.2 or below](#)

10.Stability and Reactivity

Stability
[Stable](#)
Hazardous Reaction
[Dust explosion, like most finely grained organic powders.](#)
Conditions to Avoid

Not applicable in normal use.

Materials to Avoid

Not applicable in normal use condition.

Hazardous Decomposition Products

Decomposition products will not occur.

11. Toxicological Information

Acute Toxicity

Acute Oral Toxicity (LD50) :

5000 or over [mg/kg] (Rat)

Acute Dermal Toxicity :

Not available

Acute Inhalation Toxicity :

Not applicable (Based on other Ricoh products test results of similar ingredients.)

Local effects

Acute Skin Irritation(PII) :

1.0 or below (Rabbit) (Based on other Ricoh products test results of similar ingredients.)

Acute Eye Irritation :

Non-irritant (Rabbit) (Based on other Ricoh products test results of similar ingredients.)

Sensitization

Acute Allergenic Effects :

Non-skinsensitive (Mouse) (Based on other Ricoh products test results of similar ingredients.)

Specific Effects

Carcinogenicity :

Titanium dioxide contained in this product are 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.

Mutagenicity : Negative (Ames test)

Reproduction Toxicity : Does not contain substances listed as hazardous to reproductive health.

Spacific target organ

toxicity-single exposure

Specific target organ
toxicity-repeated exposure

Aspiration hazard

[Does not contain substances listed as hazardous to reproductive health.](#)

Symptoms related to the physical, chemical and toxicological characteristics

[Not available](#)



12. Ecological Information

Mobility : [No data are available on the adverse effect one environment.](#)
Persistence/Degradability : [Not available](#)
Bioaccumulation : [Not available](#)
Ecotoxicity
Acute Toxicity for Fish (LC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/96hr](#)
Acute Toxicity for Daphnia (EC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/48hr](#)
Algae Inhibition Test (IC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/72hr](#)
Other Advers Effects : [Not available](#)

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 toner cartridge or toner into an open flame. The hot toner may scatter and cause burns or other damage.](#)

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 : Not applicable
Number
UN Proper Shipping Name : Not applicable
Class : Not applicable
Packing Group, If Applicable : Not applicable
Specific Precautionary Transport Measures and conditions
Avoid direct sunlight in quality.

15.Regulatory Information

Regulations

EU Information

Information on the label (1999/45/EC and 67/548/EEC)

Symbols & Indications : Not required

R-Phrase : Not required

S-Phrase : Not required

Special Precautions under 1999/45/EC Annex V : Not required

76/769/EEC

This product complies with applicable rules and regulations under 76/769/EEC

304/2003/EC

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

Date Prepared : [2017/05/29](#)

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

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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) : EU Directive 67/548/EEC

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

1999/45/EC Annex V : EU Directive 1999/45/EC

76/769/ EEC : EU Directive 76/769/ EEC

EC 304/2003 : Regulation (EC) No 304/2003 of the European Parliament and of the Council of 28 January 2003 concerning the export and import of dangerous

chemicals
WHMIS Controlled : Canada Workplace Hazardous Information System
product
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

Disclaimer :

This information is furnished without warranty, express or implied, except that it is accurate to the best
knowledge of RICOH COMPANY, LTD.
It relates only to the specific material designated herein, and does not relate to use in combination with
any other material or process.
RICOH COMPANY, LTD assumes no legal responsibility for use or reliance upon this information.



Cover: Safety Data Sheet (SDS)

The attached Safety Data Sheet is for the information of users of this product.

The SDS sheets are prepared by RICOH Japan, and cannot be altered.

The material referred to in this SDS is classified as:

Non-Hazardous.

Whilst the materials used in the manufacture of this product are not in sufficient quantities to be harmful, please observe the manufacturer's cautions when handling the product.

For first aid information contact:

POISONS INFORMATION CENTRE

24 Hour Emergency Number: 13 11 26

For all SDS Information please refer to the Ricoh website:

www.ricoh.com.au

Ricoh Australia Pty Ltd
2 Richardson Place ,
North Ryde
New South Wales 2113
Australia.
Telephone (61-2-8977 1111)
Fax (61-2-8977 1120)

Product Name : [Print Cartridge Black MP C3503S](#) MSDS Number : [841829](#)
 Date Prepared : [29/05/2017](#) Date Modified : [10/07/2017](#) Date : [12/07/2017](#)



Safety Data Sheet (ISO GHS - Australia - form)

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Name : [Print Cartridge Black MP C3503S \(Black toner\)](#)
 General Use : [The Image Formation of Printing Machine or Copier](#)
 Product : [Toner Cartridge](#)
 Description
 MSDS Number : [841829](#)

Company / Undertaking Identification

Company Name : [Ricoh Company,Ltd.](#)
 Department : [Safety and Reliability Engineering Department, Quarity Management Divison](#)
 Address : [146-1 Nishisawada, Numazu-shi, Shizuoka-ken, 410-0007, Japan](#)
 Telephone Number : [055-920-1470, Japan](#)
 Telefax Number : [055-920-1479, Japan](#)
 Emergency Telephone Number : [055-920-1470, Japan](#)
 E-mail : msdsinfo@nts.ricoh.co.jp

2. Hazards Identification

Classification

PHYSICAL HAZARD(S)	EXPLOSIVES	Classification not possible
	FLAMMABLE GASES	Not Applicable
	FLAMMABLE AEROSOLS	Not Applicable
	OXIDIZING GASES	Not Applicable
	GASES UNDER PRESSURE	Not Applicable
	FLAMMABLE LIQUIDS	Not Applicable
	FLAMMABLE SOLIDS	Classification not possible
	SELF-REACTIVE SUBSTANCES AND MIXTURES	Not Applicable
	PYROPHORIC LIQUIDS	Not Applicable
	PYROPHORIC SOLIDS	Classification not possible
	SELF-HEATING SUBSTANCES AND MIXTURES	Classification not possible
	SUBSTANCES AND MIXTURES, WHICH ON CONTACT WITH WATER,	Classification not possible

	EMIT FLAMMABLE GASES	
	OXIDIZING LIQUIDS	Not Applicable
	OXIDIZING SOLIDS	Classification not possible
	ORGANIC PEROXIDES	Classification not possible
	CORROSIVE TO METALS	Classification not possible
HEALTH HAZARD(S)	ACUTE TOXICITY(ORAL)	Not Classified
	ACUTE TOXICITY(DERMAL)	Classification not possible
	ACUTE TOXICITY (INHALATION - GAS)	Not Applicable
	ACUTE TOXICITY (INHALATION - VAPOUR)	Not Applicable
	ACUTE TOXICITY (INHALATION - DUST AND MIST)	Classification not possible
	SKIN CORROSION/IRRITATION	Not Classified
	SERIOUS EYE DAMAGE/EYE IRRITATION	Not Classified
	RESPIRATORY SENSITIZER	Classification not possible
	SKIN SENSITIZER	Not Classified
	GERM CELL MUTAGENICITY	Classification not possible
	CARCINOGENICITY	Classification not possible
	TOXIC TO REPRODUCTION	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING SINGLE EXPOSURE	Classification not possible
	TARGET ORGAN SYSTEMIC TOXICITY FOLLOWING REPEAT EXPOSURE	Classification not possible
	ASPIRATION HAZARD	Classification not possible
	ENVIRONMENTSL HAZARD(S)	ACUTE HAZARDS TO THE AQUATIC ENVIRONMENT
CHRONIC HAZARDS TO THE AQUATIC ENVIRONMENT		Classification not possible
HAZARDOUS TO THE OZONE LAYER		Classification not possible



Label element

Pictogram:	
Signal word(s):	Not applicable
Hazard statement(s):	Not applicable
Precautionary statement(s)	Not applicable
【Prevention】	
【Response】	Not applicable
【Storage】	Not applicable
【Disposal】	Not applicable

Specific Hazards

[Dust explosion \(like most finely grained organic powders\)](#)

3. Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	Chemical Formula	CAS.No.	Contents(%)
Polyester Resin	Confidential	Confidential	60-90
Wax	Confidential	Confidential	1-20
Carbon Black	C	1333-86-4	1-20
Titan Oxide	TiO2	13463-67-7	0.1-1
Silica	O2Si	7631-86-9	<10

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

[Cadmium](#), [Hexavalent Chromium](#), [Mercury](#), [Lead](#), [Polybrominated biphenyls \(PBB\)](#), [Polybrominated](#)

diphenylethers (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 : **Carbon Black**

CAS Number	: 1333-86-4	EEC Number	: 215-609-9
OSHA Z-Tables (USA)	: 3.5mg/m3	ACGIH-TLV	: 3.5mg/m3
NTP (USA)	: Not listed	IARC Monographs	: Group 2B
Symbol (EU)	: Not listed	R-Phrase (EU)	: Not listed
DFG-MAK	: III 3B	OELs-TWA (Australia)	: 3.0mg/m3
California Proposition 65 (USA)	: Listed		

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)	: Not listed		



4. First-Aid Measures

Inhalation

[Remove from exposure to fresh air and rinse mouth with water. Seek medical advice.](#)

Skin Contact

[Wash thoroughly with soapy water.](#)

Eye Contact

[Flush with a large amount of water until particle is removed. Seek medical advice.](#)

Ingestion

[Drink several glasses of water to dilute ingested toner. Seek medical advice.](#)

Notes to a physician

[Not applicable](#)

Most important symptoms/effects, acute, and delayed

[Not applicable](#)

Indication of immediate medical attention and special treatment needed, if necessary

[Immediate medical attention is not required.](#)

5. Fire-Fighting Measures

Extinguishing Media

[CO2, dry chemicals, foam or water.](#)

Extinguishing Media to Avoid

[Not applicable](#)

Specific Hazards

[Can form explosive dust-air mixtures when finely dispersed in air.](#)

Specific Method

[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.](#)

6. Accidental Release Measures

Personal Precautions

Do not breathe in dust.

Environment Precautions

Do not flush into sewers or watercourses.

Methods for Cleaning Up

Fine powder may form explosive dust-air mixture.

Confirm there is no source of fire and if there is a source, remove it. Sweep up spilled powder slowly and clean remainder with wet cloth. If a vacuum cleaner is used, a dust explosion-proof type must be chosen.



7. Handling and Storage

Handling

Technical Measures/Precautions

[Not applicable](#)

Safe Handling Advice

[Do not handle in areas where there is wind or draught, this may cause dust to get into eyes.](#)

[Avoid breathing in dust.](#)

Storage

Technical Measures

[Not applicable](#)

Storage Conditions

[Keep out of reach of children.](#)

[Store in dry, well-ventilated area, to maintain quality the temperature should not exceed 35°C for a long time. Avoid direct sunlight.](#)

Packaging Material

[Not applicable](#)

Specific Use(s)

[Image formation in printing machines or copiers.](#)

8. Exposure Controls/Personal Protection

Technical Measures

[Use adequate ventilation. None required with intended 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. If the limit of exposure concentration is exceeded, use authorised respirator.](#)

Hand Protection

Use vinyl or rubber gloves if necessary.

Eye Protection

Put on goggles if necessary.

Skin and Body Protection

Wear chemical-resistant apron or other impervious clothing if necessary.

Hygiene Measures

Wash hands after handling

9. Physical and Chemical Properties

Appearance

Physical State : Solid

Form : Powder

Colour : Black

Odour : Slightly plastic odour

Odour : Not available

Threshold

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) : (Softening point) Approx.90

Auto-Ignition Temperature : 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.

Product Name : [Print Cartridge Black MP C3503S](#) MSDS Number : [841829](#)
Date Prepared : [29/05/2017](#) Date Modified : [10/07/2017](#) OutputDate : [12/07/2017](#)

RICOH

Evaporation Rate : [Not applicable](#)
Vapor Pressure (Pa) : [Not applicable](#)
:
Vapor : [Not applicable](#)
Density(AIR=1) :
Density (g/cm3) : [Approx.1.2](#) Measuring Temp (degrees centigrade) : [25](#)
:

Solubility
[Water](#) Solubility (g/L) : [Insoluble](#)
[Chloroform](#) Solubility (g/L) : [Slightly soluble](#)
Octanol/Water Partition Coefficient
[Not available](#)

Other Information
Flammability : [Not flammable](#)
Upper/Lower Flammability or Explosive
Limits
Upper Flammability or Explosive Limits : [Not available](#)
(g/m3)
Lower Flammability or Explosive Limits : [Not available](#)
(g/m3)
Viscosity (Pa·s) : [Not applicable](#)
Volatile (%) : [0.2 or below](#)

10.Stability and Reactivity

Stability
[Stable](#)
Hazardous Reaction
[Dust explosion, like most finely grained organic powders.](#)
Conditions to Avoid

Not applicable in normal use.
Materials to Avoid
Not applicable in normal use condition.
Hazardous Decomposition Products
Decomposition products will not occur.

11. Toxicological Information

Acute Toxicity

Acute Oral Toxicity (LD50) :
5000 or over [mg/kg] (Rat)

Acute Dermal Toxicity :
Not available

Acute Inhalation Toxicity :
Not applicable (Based on other Ricoh products test results of similar ingredients.)

Local effects

Acute Skin Irritation(PII) :
1.0 or below (Rabbit) (Based on other Ricoh products test results of similar ingredients.)

Acute Eye Irritation :
Non-irritant (Rabbit) (Based on other Ricoh products test results of similar ingredients.)

Sensitization

Acute Allergenic Effects :
Non-skinsensitive (Mouse) (Based on other Ricoh products test results of similar ingredients.)

Specific Effects

Carcinogenicity :
Carbon black and titanium dioxide contained in this product are classified to Group 2B of IARC as the result of inhalation test in use of rat.
But oral/skin test does not show carcinogenicity.
The toner containing carbon black did not show carcinogenicity in chronic inhalation exposure test in use of rat.
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.

Mutagenicity : Negative (Ames test)

Reproduction Toxicity : Does not contain substances listed as hazardous to reproductive health.

Spacific target orgen

toxicity-single exposure

Specific target organ
toxicity-repeated exposure

Aspiration hazard

[Does not contain substances listed as hazardous to reproductive health.](#)

Symptoms related to the physical, chemical and toxicological characteristics

[Not available](#)



12. Ecological Information

Mobility : [No data are available on the adverse effect one environment.](#)
Persistence/Degradability : [Not available](#)
Bioaccumulation : [Not available](#)
Ecotoxicity
Acute Toxicity for Fish (LC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/96hr](#)
Acute Toxicity for Daphnia (EC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/48hr](#)
Algae Inhibition Test (IC50) : [Not classified as toxic \(Regulation \(EC\) No 1272/2008\).mg/l/72hr](#)
Other Advers Effects : [Not available](#)

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 toner cartridge or toner into an open flame. The hot toner may scatter and cause burns or other damage.](#)

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 : Not applicable
Number
UN Proper Shipping Name : Not applicable
Class : Not applicable
Packing Group, If Applicable : Not applicable
Specific Precautionary Transport Measures and conditions
Avoid direct sunlight in quality.

15.Regulatory Information

Regulations

EU Information

Information on the label (1999/45/EC and 67/548/EEC)

Symbols & Indications : Not required

R-Phrase : Not required

S-Phrase : Not required

Special Precautions under 1999/45/EC Annex V : Not required

76/769/EEC

This product complies with applicable rules and regulations under 76/769/EEC

304/2003/EC

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

Date Prepared : [2017/05/29](#)

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) : EU Directive 67/548/EEC

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

1999/45/EC Annex V : EU Directive 1999/45/EC

76/769/ EEC : EU Directive 76/769/ EEC

EC 304/2003 : Regulation (EC) No 304/2003 of the European Parliament and of the Council of 28 January 2003 concerning the export and import of dangerous

chemicals
WHMIS Controlled : Canada Workplace Hazardous Information System
product
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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