

Product Name : COLOR LP TONER CASSETTE TYPE165 CYAN (Cyan toner) MSDS

Number : 402445

Date Prepared : 13/12/2005 Date Modified : 01/08/2014 Date : 21/03/2016

**RICOH**

## Safety Data Sheet (ISO form)

### 1.Product and Company Identification

Product Name :COLOR LP TONER CASSETTE TYPE165 CYAN (Cyan toner)  
 General Use :The Image Formation of Printing Machine or Copier  
 MSDS Number :402445  
 Company Name :Ricoh Company,Ltd.  
 Department :Safety Engineering Department, 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	>80
Wax	Confidential	Confidential	<8
Organic Pigment	C32H16CuN8	147-14-8	<7
Silica	C6H19NSi2.O2Si	68909-20-6	<4
Organic Salt	Confidential	Confidential	<3

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.

### 3.Hazards Identification

The Most Important Hazards

Adverse Human Health Effects

There are no significant hazards expected with intended use.

Environmental Effects

There are no significant hazards expected with intended use.

Physical and Chemical Hazards

There are no significant hazards expected with intended use.

Specific Hazards

Dust explosion (like most finely divided organic powders)

Main Symptoms

Acute Inhalation Toxicity

Exposure to excessive amount of dust may cause physical irritation to respiratory tract.

Acute Oral Toxicity

Low acute toxicity in animal experiment.

Acute Eye Irritation

May cause transient slight irritation.

Acute Skin Irritation

May be non-irritant.

Sensitization

There are no significant hazards expected in animal test. (There are few report to allergy-related conjunctivitis and allergy-related cutitis has developed in human.)

Chronic Effect

It was reported slight pulmonary fibrosis upon chronic inhalation exposure in rat to a toner in 4mg/m<sup>3</sup> everyday for 2 years. No pulmonary change was found at 1mg/m<sup>3</sup>. These findings are showing exposure to excessive amount of powder may cause of a damages to lungs. However, normal use and handling of this product, as intended, does not result in inhalation of excessive amounts of powder.

Carcinogenicity

This product does not contain the substances classified as carcinogenic by NTP, IARC or OSHA.

The Classification of The Chemical Product

This preparation is not classified as dangerous according to Directive 1999/45/EC.

## 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

## 5.Fire-Fighting Measures

Extinguishing Media

CO<sub>2</sub>,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. Generally by sprinkling or extinguisher.

Protection of Fire-fighters

Wear gloves, glasses, a mask if necessary.

## 6.Accidental Release Measures

### Personal Precautions

Do not breath dust as possible.

### Environment Precautions

Do not wash away into sewer and 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 reminder 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 at area where is wind blows, it may cause of enter dust into eyes.

Avoid breathing dust.

Minimize breathing dust.

### Storage

#### Technical Measures

Not applicable

#### Storage Conditions

Keep out of reach of children.

Keep in dry, well-ventilated area and do not keep this product over 35 degrees centigrade for long time to maintain quality. Avoid direct sunlight.

Keep out of reach of children.

#### Packaging Material

Not applicable

#### Specific Use(s)

The image formation of printing machine or copier

## 8.Exposure Controls/Personal Protection

### Technical Measures

Use adequate ventilation. But, 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 an usual use condition. In case of exceed a limit of exposure concentration, use respirator with authorization.

**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

**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.110

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.

Vapor Pressure (Pa) : Not applicable

Vapor Density(AIR=1) : Not applicable

Density (g/cm<sup>3</sup>) : Approx.1.2      Measuring Temp (degrees centigrade) : 25

**Solubility**

Water Solubility (g/L) : Slightly soluble

Chloroform Solubility (g/L) : Slightly soluble

Octanol/Water Partition Coefficient

Not available

**Other Information**

Flammability : Not flammable

Viscosity (Pa·s) : Not applicable

Volatile (%) : 0.2 or below

## 10.Stability and Reactivity

**Stability**

Stable

**Hazardous Reaction**

Dust explosion, like most finely divided organic powders.

**Conditions to Avoid**

Not applicable in normal use.

**Materials to Avoid**

Not applicable in normal use.

Hazardous Decomposition Products

Decomposition products will not occur.

## 11.Toxicological Information

Acute Toxicity

Acute Oral Toxicity (LD50) :

5000 or over [mg/kg] (Rat) (Data of similar product with same ingredients.)

Acute Dermal Toxicity :

Not available

Acute Inhalation Toxicity :

Not available

Local effects

Acute Skin Irritation(PII) :

Non-irritant (Rabbit) (Data of similar product with same ingredients.)

Acute Eye Irritation :

Not available

Sensitization

Acute Allergenic Effects :

0 % (Marmot) (Data of similar product with same ingredients.)

Specific Effects

Carcinogenicity :

This product does not contain the carcinogenic substances which are listed on NTP, IARC and OSHA.

Mutagenicity : Negative (Ames test)

Reproduction Toxicity : Not include substance which listed on hazardous characteristics of reproductive toxicity.

## 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 (EU Directive 1999/45/EC) over 100mg/l/96hr

Acute Toxicity for Daphnia (EC50) : Not classified as toxic (EU Directive 1999/45/EC) over 100mg/l/48hr

Algae Inhibition Test (IC50) : Not classified as toxic (EU Directive 1999/45/EC) over 100mg/l/72hr

## 13.Disposal Consideration

General information:

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

Disposal methods:

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 Number : Not applicable  
     Class : 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 & : Not regulated

Indications

R-Phrase : Not regulated

S-Phrase : Not regulated

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

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) :

All chemical substances in this product comply with all applicable rules or order 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
1999/45/EC	: EU Directive 1999/45/EC
CLP (EC)No.1272/2008	: Regulation (EC)No.1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures,amending and repealing Directive 67/548/EEC and 1999/45/EC, and amending Regulation (EC)No. 1907/2006
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 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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