

Product Name : RICOH Print Cartridge GC21C MSDS Number : 405533
Date Prepared : 11/9/2006 Date Modified : - Date : 12/08/2009

RICOH

Safety Data Sheet (ISO form)

1. Product and Company Identification

Product Name : RICOH Print Cartridge GC21C
General Use : For Printer
MSDS Number : 405533
Company Name : Ricoh Company, Ltd.
Department : Environment Safety Center, Corporate Environment Division
Address : 146-1 Nishisawada, Numazu-shi, Shizuoka-ken, 410-0007 Japan
Telephone Number : 055-920-1470, Japan
Telefax Number : 055-920-1479, Japan
E-mail : msdsinfo@nts.ricoh.co.jp

2. Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	Chemical Formula	CAS. No.	Contents(%)
Organic Pigment (Copper compound)	Confidential	Confidential	<10
Glycol	Confidential	Confidential	20-30
Glycerin		56-81-5	<10
Water		7732-18-5	45-75

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

Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB),
Polybrominated diphenylethers (PBDE).

3. Hazards Identification

The Most Important Hazards

Adverse Human Health Effects

Not applicable in normal use.

Environmental Effects

not available

Physical and Chemical Hazards

Not applicable in normal use.

Specific Hazards

Product Name : RICOH Print Cartridge GC21C MSDS Number : 405533
Date Prepared : 11/09/2006 Date Modified : - OutputDate : 12/08/2009

RICOH

Main Symptoms

Acute Inhalation Toxicity

Acute Oral Toxicity

Acute Eye Irritation

Acute Skin Irritation

Sensitization

Chronic Effect

Carcinogenicity

The Classification of The Chemical Product

This substance is not classified as dangerous according to Directive 67/548/EEC.

4. First-Aid Measures

Inhalation

Not applicable.

Skin Contact

After contact with skin, wash immediately with soap and water.

Eye Contact

In case of contact with eyes, rinse immediately with plenty of water and consult a doctor.

Ingestion

If swallowed, drink high-density salt solution to induce vomiting and consult a doctor.

Notes to a physician

5. Fire-Fighting Measures

Extinguishing Media

No special fire protecting agent is required.

Extinguishing Media to Avoid

Specific Hazards

Specific Method

No special fire protecting method is required.

Protection of Fire-fighters

6. Accidental Release Measures

Personal Precautions

Remove contaminated clothing and launder or dry-clean before wearing.

Environment Precautions

Keep product out of sewers and watercourses.

Methods for Cleaning Up

If spilled, wipe up with paper or cloth.

Product Name : RICOH Print Cartridge GC21C MSDS Number : 405533

Date Prepared : 11/09/2006 Date Modified : - Output Date : 12/08/2009



7. Handling and Storage

Handling

Technical Measures/Precautions

Safe Handling Advice

Keep out of reach of children.

Storage

Technical Measures

Storage Conditions

Store inside warehouse to avoid direct sun.

Avoid storage above 35 degrees centigrade or storage in direct sunlight.

Packaging Material

Specific Use(s)

8. Exposure Controls/Personal Protection

Technical Measures

None needed under normal use condition.

Control Parameters

USA OSHA PEL (TWA) :

ACGIH TLV (TWA) :

DFG MAK :

Personal Protection

Respiratory Protections

None required under normal conditions of use.

Hand Protection

Use vinyl or rubber gloves if necessary.

Eye Protection

None required under normal conditions of use.

Skin and Body Protection

None required under normal conditions of use.

Hygiene Measures

9. Physical and Chemical Properties

Appearance

Physical State:

Form : liquid

Colour : cyan

Odour : not odour

Information

pH : 8~10 Measuring Temp (degrees centigrade) : 25

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

Boiling Point (degrees centigrade) : Not available

Melting Point (degrees centigrade) : Not applicable

Decomposition Temperature (degrees centigrade) : Not applicable

Flash Point (degrees centigrade) : Not applicable

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

Product Name : RICOH Print Cartridge GC21C MSDS Number : 405533
Date Prepared : 11/09/2006 Date Modified : - OutputDate : 12/08/2009



Vapor Pressure (Pa) : Not available Measuring Temp (degrees centigrade) :

Vapor : Not available
Density(AIR=1)
Density (g/cm3) : 1.05 Measuring Temp (degrees centigrade) : 23
Solubility
Water Solubility (g/L) : Soluble
not available : - Measuring Temp (degrees centigrade) : -
Solubility (g/L)
Octanol/Water Partition Coefficient
Not known
Other Information
Flammability : not aplicable
Viscosity (Pa · s) : 8 Measuring Temp (degrees centigrade) :25
Volatile (%) : 70

10. Stability and Reactivity

Stability

Hazardous Reaction

Conditions to Avoid

Not applicable in normal use.

Materials to Avoid

Not applicable in normal use.

Hazardous Decomposition Products

Decomposition product will not occur

11. Toxicological Information

Acute Toxicity

Acute Oral Toxicity (LD50) :

5000mg/kg or over (Rat) (Based on other Ricoh products test results of similar ingredients.)

Acute Dermal Toxicity :

Not available

Acute Inhalation Toxicity :

Not available

Local effects

Acute Skin Irritation(PII) :

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

Acute Eye Irritation :

not available

Sensitization

Acute Allergenic Effects :

0 (%) (Based on other Ricoh products test results of similar ingredients.)

Specific Effects

Carcinogenicity :

No data is available on this product.

Mutagenicity : Negative (Based on other Ricoh products test results of similar ingredients.)

Reproduction : None of ingredients is substance on hazardous characteristics list of
Toxicity reproductive toxicity.

Product Name : RICOH Print Cartridge GC21C MSDS Number : 405533
Date Prepared : 11/09/2006 Date Modified : - OutputDate : 12/08/2009

RICOH

12. Ecological Information

Mobility : No data are available on the adverse effect on environment.

Persistence/Degradability : not known

Bioaccumulation : Not known in bioaccumulation.

Ecotoxicity

Acute Toxicity for Fish : Not available
(LC50)

Acute Toxicity for Daphnia : Not available
(EC50)

Algae Inhibition Test : Not available
(IC50)

13. Disposal Consideration

General information:

Used product should be disposed of in an environmentally appropriate manner.

Disposal methods:

Precautions:

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

Specific Precautionary Transport Measures and conditions

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

15. Regulatory Information

Regulations

EU Information

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

Symbols & :

Indications

R-Phrase :

S-Phrase :

Special Precautions under 1999/45/EC Annex V :

76/769/EEC

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

304/2003/EC

US Information

Information on the label :

TSCA (Toxic Substances Control Act) :

SARA Title III

313 Reportable Ingredients :

California Proposition 65 :
Canada Information
WHMIS Controlled product :

Product Name : RICOH Print Cartridge GC21C MSDS Number : 405533
Date Prepared : 11/09/2006 Date Modified : - OutputDate : 12/08/ 2009

RICOH

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) : 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 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

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.
