

## Safety Data Sheet (ISO form)

### 1. Product and Company Identification

Product Name : PrintCartridge GC41ML  
General Use : The Image Formation of Printing Machine  
MSDS Number : 405767  
Company Name : Ricoh Company, Ltd.  
Department : Safety Engineering Department, Quality Management Division  
Address : 146-1 Nishisawada, Numazu-shi, Shizuoka-ken, 410-0007, Japan  
Telephone Number : 055-920-1470, Japan  
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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	Confidential	Confidential	<10
Glycol	Confidential	Confidential	20-30
Glycerin	C3H8O3	56-81-5	10-20
Water	H2O	7732-18-5	40-60

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

There are no significant hazards expected with intended use.

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#### Main Symptoms

##### Acute Inhalation Toxicity

Under normal use conditions, there is no possibility to inhale the particle of ink.

##### Acute Oral Toxicity

Low acute toxicity in animal experiment.

##### Acute Eye Irritation

May be non-irritant.

##### Acute Skin Irritation

May be non-irritant.

##### Sensitization

From test no apparent significant hazards are expected.

##### Chronic Effect

Under normal use conditions, there is no possibility to inhale the particle of ink.

##### 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

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#### 4.First-Aid Measures

##### Inhalation

Remove from exposure into fresh air if symptoms are experienced. Seek medical advice.

##### Skin Contact

Wash thoroughly with soapy water.

##### Eye Contact

Flush with a large amount of water until particles are removed. Seek medical advice.

##### Ingestion

Make him drink strong salt water, let him vomit. Seek medical advice.

##### Notes to a physician

Not applicable

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#### 5.Fire-Fighting Measures

##### Extinguishing Media

CO2, dry chemicals, foam or water.

##### Extinguishing Media to Avoid

Not applicable.

##### Specific Hazards

Not applicable

##### 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.

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#### 6.Accidental Release Measures

##### Personal Precautions

Take off dirty clothes and wash them or have them dry-cleaned before wearing again.

##### Environment Precautions

Do not exposure to sewers and watercourses.

##### Methods for Cleaning Up

If spilled, wipe up with paper or cloth.

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## 7. Handling and Storage

### Handling

#### Technical Measures/Precautions

[Not applicable](#)

#### Safe Handling Advice

[Keep away from heat, flame or spark. Do not dismantle cartridge.](#)

### Storage

#### Technical Measures

[Not applicable](#)

#### Storage Conditions

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

[For the sake of quality, store in dry and well-ventilated area it should not exceed 35 degrees centigrade for a long time and avoid direct sunlight.](#)

#### Packaging Material

[Not applicable](#)

#### Specific Use(s)

[The Image Formation of Printing Machine or Copier.](#)

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## 8. Exposure Controls/Personal Protection

### Technical Measures

[Use adequate ventilation. None required with intended use.](#)

### Control Parameters

USA OSHA PEL (TWA) : [Not applicable](#)

ACGIH TLV (TWA) : [Not applicable](#)

DFG MAK : [Not applicable](#)

### Personal Protection

#### Respiratory Protections

[None required in normal use.](#)

#### 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.](#)

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## 9. Physical and Chemical Properties

### Appearance

Physical State : [Liquid](#)

Form : [Liquid](#)

Colour : [Magenta](#)

Odour : [No 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.

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Vapor Pressure (Pa) : Not available Measuring Temp (degrees centigrade) : -  
Vapor : Not available  
Density(AIR=1) :  
Density (g/cm3) : Approx.1.1 Measuring Temp (degrees centigrade) : 23  
Solubility  
Water Solubility (g/L) : Soluble  
Octanol/Water Partition Coefficient  
Not available  
Other Information  
Flammability : Not flammable  
Viscosity (Pa·s) : Approx.0.008 Measuring Temp (degrees centigrade) :25  
Volatile (%) : 40-60

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## 10.Stability and Reactivity

Stability  
Stable  
Hazardous Reaction  
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) :  
5000 or over [mg/kg] (Rat)  
Acute Dermal Toxicity :  
Not available  
Acute Inhalation Toxicity :  
Not available  
Local effects  
Acute Skin Irritation(PII) :  
1.0 or below (Rabbit) (Slight irritation)  
Acute Eye Irritation :  
Not available (Ingredients are not classified as dangerous according to Directive 67/548/EEC.)  
Sensitization  
Acute Allergenic Effects :  
Non-skinsensitive (Mouse) (None skin sensitization.)  
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 : Does not contain substances listed as hazardous to reproductive health.

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## 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 available](#)  
Acute Toxicity for Daphnia (EC50) : [Not available](#)  
Algae Inhibition Test (IC50) : [Not available](#)

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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:  
[Not applicable](#)

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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 : [Not applicable](#)  
Number  
Class : [Not applicable](#)  
Specific Precautionary Transport Measures and conditions  
[Avoid direct sunlight in quality .; Do not keep this over 35 degrees centigrade.](#)

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## 15. Regulatory Information

Regulations  
EU Information  
Information on the label (CLP (EC)No.1272/2008)  
Symbols & Indications : [Not required](#)  
Hazard Statement : [Not required](#)  
Precautionary Statement : [Not required](#)  
Special Precautions under CLP (EC)No.1272/200 Annex II : [Not required](#)  
[This product complies with applicable rules and regulations under REACH:\(EC\)No.1907/2006 6 Annex XVII 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

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) : CLP (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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