

Product Name : RICOH Garment Ink Cartridge White 2 Ri 1000 Type G1 SDS Number : 342521



Date Prepared : Sept/25/2018 Date Modified : Sept/25/2018 Date Printed :

March/25/2019

Safety Data Sheet

Section1 :Chemical Product and Company Identification

(a) Product identifier used on the label

Product : RICOH Garment Ink Cartridge White 2 Ri 1000 Type G1
Name

(b) Other means of identification

SDS Number : 342521

(c) Recommended use of the chemical and restrictions on use

General : The image formation of printing machine or copier.
Use

(d) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible

Company Name : Ricoh USA, Inc
Department : Environmental Sustainability and Product Compliance
Address : 5 Dedrick Place West Caldwell, NJ 07006 USA

(e) Emergency phone number.

Telephone : 1-973-882-2000 or 1-973-882-5218 (For product information) or
Number 1-800-336-6737 (for emergencies)
Telefax : 1-973-882-3959
Number
E-mail : environmentinfo@ricoh-usa.com

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Section2 : 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 Classified
	FLAMMABLE SOLIDS	Not Applicable
	SELF-REACTIVE SUBSTANCES AND MIXTURES	Classification not possible
	PYROPHORIC LIQUIDS	Not Classified
	PYROPHORIC SOLIDS	Not Applicable
	SELF-HEATING SUBSTANCES AND MIXTURES	Classification not possible
	SUBSTANCES AND MIXTURES, WHICH ON CONTACT WITH WATER, EMIT FLAMMABLE GASES	Not Classified
	OXIDIZING LIQUIDS	Classification not possible
	OXIDIZING SOLIDS	Not Applicable
	ORGANIC PEROXIDES	Not Applicable
HEALTH HAZARD(S)	CORROSIVE TO METALS	Classification not possible
	ACUTE TOXICITY (ORAL)	Classification not possible
	ACUTE TOXICITY (DERMAL)	Classification not possible
	ACUTE TOXICITY (INHALATION - GAS)	Not Applicable

	ACUTE TOXICITY (INHALATION – VAPOUR)	Not Applicable
	ACUTE TOXICITY (INHALATION – DUST AND MIST)	Not Applicable
	SKIN CORROSION/IRRITATION	Not Classified
	SERIOUS EYE DAMAGE/EYE IRRITATION	Classification not possible
	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	2
	ASPIRATION HAZARD	Classification not possible
ENVIRONMENTSL HAZARD(S)	ACUTE HAZARDS TO THE AQUATIC ENVIRONMENT	Classification not possible
	CHRONIC HAZARDS TO THE AQUATIC ENVIRONMENT	Classification not possible
	HAZARDOUS TO THE OZONE LAYER	Classification not possible


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Label element

Pictogram :	Health hazard 
Signal word(s) :	Warning
Hazard statement(s) :	May cause damage to organs through prolonged or repeated exposure
Precautionary statement(s) 【Prevention】	Do not breathe dust/fume/gas/mist/vapours/spray.
【Response】	Get medical advice/attention if you feel unwell.
【Storage】	Not applicable
【Disposal】	Dispose of contents/container in accordance with local/regional/national/international regulations.

Specific Hazards

There are no significant hazards expected with intended use.

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Section3 : Composition, Information on Ingredients

Ingredients CAS No./Chemical name	Contents (%)
107-21-1 Glycol	1-10
13463-67-7 Titanium dioxide	10-20
confidential Others	30-70

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Section4 : First Aid Measures

(a) Necessary 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 :

Wash thoroughly with soapy water.

(b) Most important symptoms/effects, acute and delayed.

Not applicable

(c) Indication of immediate medical attention and special treatment needed.

Immediate Medical Attention :

Immediate medical attention is not required.

Section5 : Fire Fighting Measures

- (a) Suitable (and unsuitable) extinguishing media.

Extinguishing Media to Avoid :

Not applicable

- (b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

Specific Hazards :

Not applicable

- (c) Special protective equipment and precautions for fire-fighters.

Fire-Fighting Instructions / Specific Method :

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

Protection of Firefighters :

Wear gloves, glasses, a mask if necessary.

Section6 : Accidental Release Measures

- (a) Personal precautions, protective equipment, and emergency procedures.

Personal Precautions :

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

Environment Precautions :

Do not flush into sewers or watercourses.

- (b) Methods and materials for containment and cleaning up.

Methods for Cleaning Up :

When spilt, wipe off with paper or cloth.

Section7 : Handling and Storage

- (a) Precautions for safe handling.

Handling :

Technical Measures/Precautions

Not applicable

Safe Handling Advice

Keep away from heat, flame or spark. Do not dismantle cartridge.

- (b) Conditions for safe storage, including any incompatibilities.

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) :

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Section8 : Exposure Controls/Personal Protection

(a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH)

Threshold Limit Value (TLV), and any other exposure limit

Control Parameters

Exposure Limit Value (I)

USA OSHA PEL (TWA) : Not applicable

ACGIH TLV (TWA) : Not applicable

DFG MAK : Not applicable

Personal Protection

(b) Appropriate engineering controls.

Technical measures :

Use adequate ventilation. None required with intended use.

(c) Individual protection measures, such as personal protective equipment.

Respiratory Protections (Specify Type)

None required in normal use.

Eye Protection

Put on goggles if necessary.

Protective Gloves

Use vinyl or rubber gloves if necessary.

Protective Clothing or Equipment

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

Hygiene Measures

Wash hands after handling.

Section9 : Physical and Chemical Properties

(a) Appearance (physical state, color, etc.)

Physical state : Liquid
Form : Liquid
Colour : White

(b : slight
)0
do
r

(c : Not available
)0
do
r
th
re
sh
ol
d

(d)pH : 7-9

(e)Melting : Not available
point/freezing
point
(degrees
centigrade)

(f)Initial boiling point and : Not available
boiling range

(g) : Not available

)F

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(h)Evaporation Rate (Butyl : Not available
Acetate = 1)

(i)Flammability : Not flammable
(solid, gas)

(j)Upper/lower flammability or : Upper Not applicable Lower Not applicable
explosive limits

(k)Vapor Pressure (Pa) : Not available

(l)Vapor Density : Not available
(AIR=1)

(m)Relative density : 1.16

(n)Solubility(ies)

Water dispersible
Solubility (g/L)

(o)Partition coefficient: n- : Not available
octanol/water

(p)Auto-ignition : Not available
temperature

(q)Decomposition temperature (degrees : Not available
centigrade)

(r)Viscosity

(Pa·s) :

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Section10 : Stability and Reactivity

(a) Reactivity

Hazardous Reaction :

There is no significant hazardous reaction expected with intended use.

(b) Chemical stability :

Stable

(c) Possibility of hazardous reactions :

Not available

(d) Condition to Avoid :

Not applicable in normal use.

(e) Incompatible materials :

Not applicable in normal use.

(f) Hazardous decomposition products :

Decomposition products will not occur.

Section11 : Toxicological Information

(a) Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)

ingestion, skin, inhalation, eye contact

(b) Symptoms related to the physical, chemical and toxicological characteristics

Not available

(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure

Acute Toxicity

Acute Oral Toxicity (LD50) :

5000 or over [mg/kg] (Rat) (OECD TG 423)

Acute Dermal Toxicity :

Not available

Acute Inhalation Toxicity :

Not available

Local effects

Acute Skin Irritation(PII) :

1.0 or below (OECD TG 404)

Acute Eye Irritation :

Non-irritant (OECD TG 405)

Sensitization

Acute Allergenic Effects :

0 % (Mouse) (OECD TG 429)

Mutagenicity :Negative (Ames test)

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

Teratogenic :Not available.

(d) Numerical measures of toxicity (such as acute toxicity estimates)

Not available

(e) Whether the hazardous chemical is listed in the National Toxicology Program (NTP)

Report on Carcinogens (latest edition) or has been found to be a potential carcinogen

in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or

by OSHA.

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

This is due to the fact that rat alone showed lung tumor in the animal experiment under very high concentration.

During a normal use of this product, design of the cartridge proves it impossible to have powder titanium dioxide released to the air.

Intake from the mouth and skin does not show 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.

During a normal use of this product, it impossible to have powder titanium dioxide released to the air.

Section12 : Ecological Information

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

Persistence/Degradabil : Not available

ity

Bioaccumulation : Not available

Ecotoxicity

Acute Toxicity for Fish : >100mg/l/96hr
(LC50)

Acute Toxicity for Daphnia : >100mg/l/48hr
(EC50)

Algae Inhibition Test (IC50) : >100mg/l/72hr

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Section13 : 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

Section14 : 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

UN Number : Not applicable

Class : Not applicable

Specific Precautionary Transport Measures and Conditions

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

Section15 : Regulatory Information

Regulations

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 (Superfund Amendments and Reauthorization Act) Title III

313 Reportable Ingredients : [Regulated](#)

California Proposition 65 : [Not regulated](#)

Canada Information

WHMIS Controlled product : [Not a controlled product](#)

EU Information

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

Symbol & Indication : [Not required](#)

R-Phrase : [Not required](#)

S-Phrase : [Not required](#)

(EU) No. 1907/2006 Annex XVII

[This product complies with applicable rules and regulations under \(EU\) No.1907/2006 Annex XII](#)

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Section16 : Other Information

Explanation of Hazardous Materials Identification System [HMIS]& National Fire Protection Association [NFPA] Hazard Rating Systems:

Both the HMIS and NFPA systems use number from "0" to "4" to show the degree of hazard in an uncontrolled situation:

0=Minimum Hazard 1=Slight Hazard 2=Moderate Hazard 3=Serious Hazard 4=Severe Hazard

Colors may also be used in both systems:

Blue=Health Hazard **Red**=Fire Hazard **Yellow**=Reactivity Hazard **White**=Indicate a special hazard

HMIS will specify any Personal Protective Equipment required [PPE],

NFPA will specify OX(oxidizer), Acid(acid), ALK(Alkali), COR(Corrosive), W(use no water), xx(Radioactive).

Literature References :

ANSI Z400.1-1993

ISO 11014-1

Commission Directive 91/155/EEC

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, pp280-299

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 (GER) : DFG List of MAK and BAT Value
- Symbol (EC) : Regulation (EC)No.1272/2008
- 91/155/ EEC : EU Directive 91/155/ EEC
- 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)No. 689/2008 : EU. Regulation EC No. 689/2008, Annex 1
- 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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