

1. Identification

Product identifier RICOH Garment Ink Cartridge W (Hi Yield) Type P1

Other means of identification
SDS No. 342819

Recommended use The Image Formation of Printing Machine or Copier. ink product Ink Cartridge

Recommended restrictions No other uses are advised.

Manufacturer/Importer/Supplier/Distributor information

Company name Ricoh USA, Inc.

Department Environmental Sustainability and Product Compliance

Address 2 Gatehall Drive, Suite 204 Parsippany, NJ 07054, U.S.A.

Phone 1-973-882-2000 or 1-973-882-5218 (For product information)

Emergency Contact 1-800-336-6737

E-mail environmentinfo@ricoh-usa.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Not available.

Response Not available.

Storage Not available.

Disposal Not available.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information 6% of the mixture consists of ingredients of unknown acute toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Water		7732-18-5	30-60
Glycerol		56-81-5	10-30
Titanium dioxide		13463-67-7	7-13

Composition comments This product does not contain any of the following RoHS substances as ingredients. Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenylethers (PBDE), Phthalate esters (DEHP, BBP, DBP, and DIBP), SVHC (substances of very high concern: published by ECHA).

4. First-aid measures

Inhalation Move to fresh air. Get medical attention, if needed.

Skin contact Wash off with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

Eye contact Rinse with plenty of water. If irritation persists get medical attention.

Ingestion Rinse mouth thoroughly. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed Not available.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media Water. Foam. Dry chemicals. Carbon dioxide (CO2).

Unsuitable extinguishing media Not available.

Specific hazards arising from the chemical Not applicable.

Special protective equipment and precautions for firefighters Wear suitable protective equipment.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation.

Methods and materials for containment and cleaning up Wipe up with absorbent material (e.g. cloth, fleece). For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not use in areas without adequate ventilation. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities Store at 5 - 35 °C and protect from sunlight.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m3	
		1000 ppm	
Glycerol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Glycerol (CAS 56-81-5)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	500 ppm	
	TWA	250 ppm	
Titanium dioxide (CAS 13463-67-7)	TWA	2.5 mg/m3	Respirable finescale particles
		0.2 mg/m3	Respirable nanoscale particles

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	25 mg/l	Acetone	Urine	*

* - For sampling details, please see the source document.

Appropriate engineering controls Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear appropriate protective goggles.

Skin protection

Hand protection Wear suitable gloves.

Other Wear suitable protective clothing.

Respiratory protection Wear suitable respiratory protection.

Thermal hazards Not applicable.

9. Physical and chemical properties**Appearance**

Physical state Liquid.

Form Not available.

Color White

Odor Slight characteristic odor

Odor threshold Not available.

pH ≥ 7 - ≤ 10

Melting point/freezing point Not available.

Initial boiling point and boiling range >212 °F (>100 °C)

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Easily soluble

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature	Not available.
Viscosity	<15 mPa·s
Other information	
Density	>= 1.00 - <= 1.50 g/cm ³

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	None known.
Conditions to avoid	Sunlight. High temperatures.
Incompatible materials	None known.
Hazardous decomposition products	No dangerous reaction known under conditions of normal use.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Not available.
Skin contact	Not available.
Eye contact	Not available.
Ingestion	Not available.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity Oral 2000<ATE<= 5000 mg/kg
6% of ingredients of unknown oral acute toxicity.

Skin corrosion/irritation

Irritation Corrosion - Skin: P.I.I. value

RICOH Garment Ink Cartridge W (Hi Yield) Type P1 Result: Non-irritant
Notes: This information is based on toxicity data for similar materials and ingredients.

Serious eye damage/eye irritation

Irritation Corrosion - Eye

RICOH Garment Ink Cartridge W (Hi Yield) Type P1 Result: Non-irritant
Notes: This information is based on toxicity data for similar materials and ingredients.

Respiratory or skin sensitization

Skin sensitization

Skin sensitization

RICOH Garment Ink Cartridge W (Hi Yield) Type P1 Result: Non-skinsensitive
Notes: This information is based on toxicity data for similar materials and ingredients.

Germ cell mutagenicity Not available.

Germ cell mutagenicity: Ames test

RICOH Garment Ink Cartridge W (Hi Yield) Type P1 Result: Negative
Notes: Results of an assay using five bacterial strains and six concentrations. Not conducted dose range-finding test.

Carcinogenicity

Titanium dioxide contained in this product falls under IARC rank 2B of carcinogens. This classification is based on the results of an inhalation test on rats, but no carcinogenicity was observed in dermal and oral ingestion tests on rats. Also, there is no possibility of inhaling Titanium dioxide from this product. Therefore, this product powdered Titanium dioxide is not released into the air. No carcinogenicity has been observed when ingested through the mouth or skin.

IARC Monographs. Overall Evaluation of Carcinogenicity

Titanium dioxide (CAS 13463-67-7) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not available.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

12. Ecological information

Ecotoxicity Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations.

Waste from residues / unused products Not available.

Contaminated packaging Not available.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations

Toxic Substances Control Act (TSCA) Toxic Substances Control Act (TSCA) Section 4(a) Final Test Rules & Testing Consent Orders (40 CFR 799, Subpts B-D) Aceton (CAS 67-64-1)Triethylene glycol monobutyl ether (CAS 143-22-6)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Acetone (CAS 67-64-1) Listed.
Ammonia Solution (CAS 1336-21-6) Listed.

SARA 304 Emergency release notification
Ammonia; Ammonia (anhydrous) (CAS 1336-21-6) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Ammonia Solution	1336-21-6	100	500		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Ammonia Solution (CAS 1336-21-6)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1) 6532

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1) 6532

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Acetone (CAS 67-64-1)

Low priority

Glycerol (CAS 56-81-5)

Other Flavoring Substances with OSHA PEL's

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Acetone (CAS 67-64-1)

Ammonia Solution (CAS 1336-21-6)

Titanium dioxide (CAS 13463-67-7)

California Proposition 65

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Titanium dioxide (airborne, unbound particles of respirable size) (CAS 13463-67-7) Listed: September 2, 2011

16. Other information, including date of preparation or last revision

Issue date 03-03-2023

Version # 01

References ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
HSDB® - Hazardous Substances Data Bank
Japan Society for Occupational Health, Recommendation of Occupational Exposure Limits
JIS Z 7252:2019 Classification of chemicals based on "Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"
JIS Z 7253:2019 Hazard communication of chemicals based on GHS - Labelling and Safety Data Sheet (SDS)
Taiwan. OELs. (Standards on Workplace Atmosphere of Dangerous and Hazardous Materials)
National Toxicology Program (NTP) Report on Carcinogens
US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer Not available.

Revision information This document has undergone significant changes and should be reviewed in its entirety.