SAFETY DATA SHEET

1. Identification

Product identifier **Pro C9500 Print Cartridge Yellow(Yellow toner)**

Other means of identification

SDS No. 828668

Recommended use Image formation in printing machines or copiers dry toner

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 Combustible dust

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 None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Polyester Resin		Confidential	50 - 90
Ferrite (Iron Oxide 50~90%、Manganese Oxide 14~45%,Manganese content 23%)		66402-68-4	1-20
Wax		Confidential	1 - 20
Organic Pigment		Confidential	1 - 10
Silica		7631-86-9	<10
Titanium Dioxide		13463-67-7	0.1 - 1

Composition comments This product does not contain any of the following RoHS2 substances as ingredients. Cadmium, Hexavalent Chromium, Mercury, Lead, Polybrominated biphenyls (PBB), Polybrominated diphenyleters (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.
Eye contact	Rinse with plenty of water. If eye irritation persists: Get medical advice/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	Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
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	Avoid inhalation of dust.
Methods and materials for containment and cleaning up	Remove from the surface by skimming or with suitable absorbents. Collect dust using a vacuum cleaner equipped with HEPA filter.
Environmental precautions	Do not discharge into drains, water courses or onto the ground. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling	No special precautions are necessary beyond normal good hygiene practices. See Section 8 of the SDS for additional personal protection advice when handling this product.
Conditions for safe storage, including any incompatibilities	Not available.

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
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
Silica (CAS 7631-86-9)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		0.8 mg/m3	
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.

ACGIH

Material	Type	Value	Form
Pro C9500 Print Cartridge Yellow(Yellow toner)	TWA	3 mg/m3	inhalable dust
		10 mg/m3	total dust

US. ACGIH Threshold Limit Values

Components	Type	Value
Titanium Dioxide (CAS 13463-67-7)	TWA	10 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Silica (CAS 7631-86-9)	TWA	6 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection Not normally needed.If necessary, Wear eye/face protection.

Skin protection

Hand protection Not normally needed.If necessary, Wear suitable gloves.

Other Not normally needed.If necessary, Wear suitable coveralls to prevent exposure to the skin.

Respiratory protection No personal respiratory protective equipment normally required.

Thermal hazards Not available.

General hygiene considerations Wash hands after handling.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Powder.

Color Yellow

Odor Sligthly plastic odour

Odor threshold Not available

pH Not applicable

Melting point/freezing point Not available.

Initial boiling point and boiling range Not applicable

Flash point Not applicable

Evaporation rate Not applicable

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not applicable

Vapor density Not applicable

Relative density Not available.

Solubility(ies)

Solubility (water) Insoluble

Partition coefficient (n-octanol/water) Not available

Auto-ignition temperature Not available.

Decomposition temperature Not available

Viscosity Not applicable

Other information	Dust explosion (like most finely grained organic powders)
Density	1.50 g/cm3
Flammability	Not flammable
Softening point	194 °F (90 °C)
VOC	<= 0.2 %

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	Dust explosive, but under the intended conditions of use, the probability of dust explosion is very low.
Conditions to avoid	None under normal conditions.
Incompatible materials	Not available.
Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

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

Product	**Species**	**Test Results**
Pro C9500 Print Cartridge Yellow(Yellow toner)		
Acute		
Oral		
LD50	Rat	>= 5000 mg/kg

Skin corrosion/irritation Not available.

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

Pro C9500 Print Cartridge Yellow(Yellow toner)	<= 1 Species: Rabbit Notes: Based on other product test results of similar ingredients.

Serious eye damage/eye irritation Not available.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	Not available.

Skin sensitization

Pro C9500 Print Cartridge Yellow(Yellow toner)	Result: Non-skinsensitive Species: Mouse Notes: Based on other product test results of similar ingredients.

Germ cell mutagenicity Not available.

Germ cell mutagenicity: Ames test

Pro C9500 Print Cartridge Yellow(Yellow toner)	Result: Negative Notes: Based on other product test results of similar ingredients.

Carcinogenicity Titanium dioxide contained in this product is classified to Group 2B of IARC as the result of inhalation test in use of rat.
But oral/skin test does not show carcinogenicity.
In the animal experiment with very high concentration of titanium dioxide (excessive burden of rat's lungs clearance mechanism (overload phenomenon)), the rat alone showed lung tumor.
Under a normal use practice, the concentration should be far lower than the above; and it is assumed that there is no such use.
Also, relation between respiratory disease and work exposure of titanium dioxide is not observed with epidemiological survey.

IARC Monographs. Overall Evaluation of Carcinogenicity

Silica (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
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 This material is not expected to be harmful to aquatic life.

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Contract with a disposal operator licensed by the Law on Disposal and Cleaning.

Local disposal regulations Dispose in accordance with all applicable regulations. Do not throw in contents or containers containing contents into fire. The contents will splash and cause burns.

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)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
Classified hazard categories	Combustible dust

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)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

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

Titanium dioxide (airborne, unbound particles of respirable size) (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	07-15-2022
Version #	01
References	ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices HSDB® - Hazardous Substances Data Bank Japan Chemical Industry Association (JCIA) GHS Guideline, June 2019 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) National Toxicology Program (NTP) Report on Carcinogens US. IARC Monographs on Occupational Exposures to Chemical Agents ・Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats H.Muhle et.al Fundamental and Applied Toxicology 17.280-299(1991) ・Lung Clearance and Retention of Toner, Utilizing a Tracer Technique, during Chronic Inhalation Exposure in Rats B.Bellmann Fundamental and Applied Toxicology 17.300-313(1991) International Agency for Research on Cancer IARC: International Agency for Research on Cancer Carcinogenicity classification Group 1: Carcinogenic to humans Group 2A: Probably carcinogenic to humans Group 2B: May be carcinogenic to humans Group 3: Cannot be classified as carcinogenic to humans Group 4: Probably not carcinogenic to humans
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.