Product Name : PRINT CARTRIDGE Y SP C220A (Yellow toner) SDS Number : 406044
Date Prepared : Dec/1/2007 Date Modified : July/10/2017 Date Printed: Aug/10/2018

Safety Data Sheet

Section1 : Chemical Product and Company Identification

(a) Product identifier used on the label
Product Name : PRINT CARTRIDGE Y SP C220A (Yellow toner)

(b) Other means of identification
SDS Number : 406044

(c) Recommended use of the chemical and restrictions on use
General Use : The Image Formation of Printing Machine or Copier

(d) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
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 Number : 1-973-882-2000 or 1-973-882-5218 (For product information) or 1-800-336-6737 (for emergencies)
Telefax Number : 1-973-882-3959
E-mail : environmentinfo@ricoh-usa.com

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

	ACUTE TOXICITY (INHALATION - VAPOUR)	Not Applicable
	ACUTE TOXICITY (INHALATION - DUST AND MIST)	Classification not possible
	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	Classification not possible
	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

Label element

Pictogram:	
Signal word(s):	Not applicable
Hazard statement(s):	Not applicable
Precautionary statement(s) 【Prevention】	Not applicable
【Response】	Not applicable
【Storage】	Not applicable
【Disposal】	Not applicable

Specific Hazards

Dust explosion (like most finely grained organic powders)

Section3 : Composition, Information on Ingredients

Ingredients CAS No./Chemical name	Contents (%)
Confidential Polyester Resin 1	40-60
Confidential Polyester Resin 2	30-50
Confidential Wax	1-5
Confidential Silica	1-5
Confidential Organic Salt	1-5

Section4 : First Aid Measures

(a) Necessary measures

Inhalation :

Remove from exposure into fresh air and rinse mouth with water. 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 :

Drink several glasses of water to dilute ingested toner. Seek medical advice.

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

Not available

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

Immediate edical 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 :

Can form explosive dust-air mixtures when finely dispersed in air.

(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 :

Do not breathe in dust.

Environment Precautions :

Do not flush into sewers or watercourses.

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

Methods for Cleaning Up :

Fine powder may form explosive dust-air mixture.Confirm there is no source of fire and if there is a source,remove it.Sweep up spilled powder slowly and clean reminder with wet cloth.If a vacuum cleaner is used,a dust explosion-proof type must be chosen.

Section7 : Handling and Storage

(a) Precautions for safe handling.

Handling :

Technical Measures/Precautions

Not applicable

Safe Handling Advice

Do not handle in areas where there is wind or draught, this may cause dust to get into eyes.
Avoid breathing in dust.

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

Storage :

Technical Measures

Not applicable

Storage Conditions

Keep out of reach of children.
Store in dry, well-ventilated area, to maintain quality the temperature should not exceed 35degrees centigrade for a long time. Avoid direct sunlight.

Packaging material

Not applicable

Specific Use(s) :

Image formation in printing machines or copiers.

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)	: 15mg/m3 (Total dust)	5.0mg/m3 (Respirable fraction)
ACGIH TLV (TWA)	: 10mg/m3 (Inhalable fraction)	3.0mg/m3 (Respirable fraction)
DFG MAK	: 4.0mg/m3 (Total dust)	1.5mg/m3 (Respirable fraction)

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. If the limit of exposure concentration is exceeded, use authorised respirator.

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 : Solid
Form : Powder
Colour : Yellow

(b)Odor : Slightly plastic odor

(c)Odor threshold : Not available

(d)pH : Not applicable

(e)Melting point/freezing point (degrees centigrade) : (Softening point) Approx.110

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

(g)Flash point : Not applicable

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

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

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

(k)Vapor Pressure (Pa) : Not applicable

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

(m)Relative density : Approx.1.2

(n)Solubility(ies)
Water Solubility (g/L) : Slightly soluble
Chloroform Solubility (g/L) : Slightly soluble

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

(p)Auto-ignition temperature : Not available

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

(r)Viscosity (Pa・s) : Not applicable

Section10 : Stability and Reactivity

(a)Reactivity
Hazardous Reaction :
Dust explosion, like most finely grained organic powders.

(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
Not available

Acute Toxicity
Acute Oral Toxicity (LD50) :
5000 or over [mg/kg] (Rat) (Based on other product 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 (Rabbit) (Based on other product test results of similar ingredients.)
Acute Eye Irritation :
Not available (Ingredients are not classified as dangerous according to Regulation (EC) No 1272/2008.)

Sensitization
Acute Allergenic Effects :
0 % (Marmot) (Based on other product test results of similar ingredients.)

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.
This product does not contain the carcinogenic substances which are listed on NTP, IARC and OSHA.

Section12 : Ecological Information

Mobility : No data are available on any adverse effects on the environment.

Persistence/Degradability : Not available

Bioaccumulation : Not available

Ecotoxicity

Acute Toxicity for Fish (LC50)	: Not classified as toxic (Regulation (EC) No 1272/2008).
Acute Toxicity for Daphnia (EC50)	: Not classified as toxic (Regulation (EC) No 1272/2008).
Algae Inhibition Test (IC50)	: Not classified as toxic (Regulation (EC) No 1272/2008).

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

Do not throw the toner cartridge or toner into an open flame. Hot toner may scatter and cause burns or other damage.

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.

Section15 : Regulatory Information

Regulations

US Information

Information on the label :
Not required

TSCA (Toxic Substances Control Act) :
This toner complies with all applicable rules and regulations under TSCA.

SARA (Superfund Amendments and Reauthorization Act) Title III
313 Reportable Ingredients :
Not regulated

California Proposition 65
Not regulated

Canada Information

WHMIS Controlled product :
Not a controlled product

EU Information

Information on the label (EU Regulation (EC)No. 1272/2008)
Symbol & Indication : Not required
Hazard Statement : Not required
Precautionary statement : Not required

Special Precautions underEU Regulation 1272/2008 Annex II :
Not required

REACH:(EC)No.1907/2006 Annex XVII
This product complies with applicable rules and regulations under (EU) No.1907/2006 Annex XII

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 reqired [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
1999/45/EC	: EU Directive 1999/45/EC
CLP (EC)No.1272/2008	: Regulation (EC)No.1272/2008 of the European Parliamant 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

Disclaimer(S) :

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Ricoh USA, Inc.
It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.
Ricoh USA, Inc assumes no legal responsibility for use or reliance upon this information.