



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: Print Cartridge Black Type MP C5000/C5050/LD550C
Product Number: 841284
Chemical Name: mixture
CAS Number: 0-00-0

Company Identification

Ricoh Americas Corporation
5 Dedrick Place
West Caldwell, NJ 07006 USA
1-973-882-2000 or 1-973-882-5218 (For product information)
1-800-336-6737 (For emergencies)

GENERAL USE:

Aficio MP C4000, MP C5000, Savin C4040, C5050, Lanier LD540C, LD550C.

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT LISTING:

Chemical Name	Amount	CAS Number
POLYESTER RESIN	50.0 - 90.0 %	Confidential
WAX	< 10.0 %	Confidential
CARBON BLACK	< 10.0 %	1333-86-4
SILICA	< 10.0 %	7631-86-9
TITAN OXIDE	0.1 - 1.0 %	13463-67-7

EXPOSURE GUIDELINES:

Carbon Black

OSHA PEL: 3.5 mg/m³
ACGIH TWA: 3.5 mg/m³

Silica

OSHA PEL: 15 mg/m³
ACGIH TWA: 10 mg/m³

Titan Oxide

OSHA TWA: 15 mg/m³
ACGIH TWA: 10 mg/m³

3. HAZARDS IDENTIFICATION

PRIMARY ENTRY ROUTES:

Inhalation, skin, ingestion.

ACUTE EYE EFFECTS:

May cause slight transient irritation.

ACUTE SKIN EFFECTS:

May be non-irritant.

ACUTE INHALATION EFFECTS:

Exposure to excessive amount of dust may cause physical irritation to respiratory tract.

ACUTE INGESTION EFFECTS:

Low acute toxicity in animal experiment.

CARCINOGENICITY:

Carbon Black and 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. The toner containing carbon black did not show carcinogenicity in chronic inhalation exposure test in use of rat. In the animal experiment with very high concentration of titanium dioxide (excessive burden of rat's lung 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.

MEDICAL CONDITION AGGRAVATED BY LONG-TERM EXPOSURE:

Not applicable.

CHRONIC EFFECTS:

Slight pulmonary fibrosis has been reported in rats upon chronic inhalation exposure to a toner at 4mg/m³ every day for 2 years. No pulmonary change was found at 1mg/m³. These findings show that exposure to excessive amounts of powder may cause damage to lungs. However, normal use and handling of this product as intended, does not result in inhalation of excessive amounts of powder.

4. FIRST AID MEASURES

EYE CONTACT FIRST AID:

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

SKIN CONTACT FIRST AID:

Wash thoroughly with soapy water.

INHALATION FIRST AID:

Remove from exposure into fresh air and rinse mouth with water. Seek medical advice.

INGESTION FIRST AID:

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

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

COC Flash Point: N/A

Autoignition Temperature: N/A

FLAMMABLE LIMITS IN AIR

LEL: N/A

UEL: N/A

BURNING RATE:

(mm/sec): 0.223 or below.

NFPA Rating:

Health - 1
Flammability - 1
Reactivity - 0

UNUSUAL FIRE OR EXPLOSION HAZARDS:

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

FIRE FIGHTING INSTRUCTIONS:

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

6. ACCIDENTAL RELEASE MEASURES

SPILL / LEAK PROCEDURES:

Confirm there is no source of fire and if there is a source, remove it. Sweep up spilled powder slowly and clean remainder with wet cloth.

MISCELLANEOUS:

Do not breath in dust. Do not flush into sewers and watercourses.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS:

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

STORAGE REQUIREMENTS:

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION:

None required with intended use.

RESPIRATORY PROTECTION:

None required in normal use.

9. PHYSICAL AND CHEMICAL PROPERTIES

FORM:	Solid powder
COLOR:	Black
ODOR:	slight plastic odor
BOILING POINT:	Not applicable C
VAPOR PRESSURE:	Not applicable psia
VAPOR DENSITY:	Not applicable (Air = 1)
SOLUBILITY IN WATER:	Insoluble
MELTING/FREEZING POINT:	(softening point) Approx. 110 C
PH:	Not applicable
% VOLATILES:	- %
VISCOSITY:	Not applicable
EVAPORATION RATE:	Not applicable

10. STABILITY AND REACTIVITY

STABILITY:

Stable.

POLYMERIZATION:

None.

CONDITIONS TO AVOID:

Not applicable in normal use.

HAZARDOUS DECOMPOSITION PRODUCTS:

Decomposition products will not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL EFFECTS:

(LD50): >5000mg/kg.

CARCINOGENICITY:

Carbon Black and 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. The toner containing carbon black did not show carcinogenicity in chronic inhalation exposure test in use of rat. 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.

MUTAGENICITY:

Negative (Ames test).

TERATOGENICITY:

Not available.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DEGRADATION:

Not available.

13. DISPOSAL CONSIDERATIONS

DISPOSAL:

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.

MISCELLANEOUS:

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

14. TRANSPORT INFORMATION

PRODUCT LABEL:

Print Cartridge Black Type MP C5000/C5050/LD550C

MISCELLANEOUS:

Avoid direct sunlight in quality.

15. REGULATORY INFORMATION

Canadian Disclosure List

Silica (7631-86-9)

16. OTHER INFORMATION

HMIS Rating:

Health - 1
Flammability - 1
Reactivity - 0
Personal Protection Index - See section 8

NFPA Rating:

Health - 1
Flammability - 1
Reactivity - 0

APPROVED BY: David Huelbig
TITLE: Safety Engineer
APPROVAL DATE: January 12, 2009
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