
MATERIAL SAFETY DATA SHEET

DATE PREPARED: 18th May 1998

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
1.1 Identification of the Substance or Preparation

Product Name: Cartridge A (Brown/Red/Blue/Green)

Description: Canon Cartridge A (Brown, Red, Blue & Green) for FC1, FC2, FC3, FC3II, FC5, FC5II, PC6, PC7, PC7RE & PC11

1.2 Company Undertaking IdentificationManufacturer: Canon Inc.
Phone: 03-3758-2111Distributor: Canon (UK) Limited
Woodhatch
Reigate
Surrey
Telephone: (01737) 220000**SECTION 2: COMPOSITION/INFORMATION OF INGREDIENTS**

Principal Components	Wt%	CAS #	USA OSHA PEL	ACGIH TLV	DFG MAK
Carbon Black	0.2	1333-86-4	3.5mg/m ³ (TWA)	3.5mg/m ³ (TWA)	-
Styrene acrylate copolymer	45-55	-	-	-	-
Ferrite	20-30	66402-68-4	-	-	-
Styrene polymer	10-20	-	-	-	-
Pigment	1-5	-	-	-	-

All MSDS sheets have been updated to appear in the current 16 paragraph format (previously nine), information requested for the new format which isn't available from the previous format will have No Data Available against it. (As advised by Sedgwick Risk Consultants. Memo dated 28/02/97).

Revision Date: 17.01.97**MSDS3072 (Cartridge A)**

SECTION 3. HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW: Fine powder, slight plastic odour.

POTENTIAL HEALTH EFFECTS AND SYMPTOMS:

INGESTION: Not applicable route of entry for intended use.

INHALATION: Minimal respiratory tract irritation may occur as with exposure to large amounts of any non-toxic dust.

EYE CONTACT: May cause eye irritation.

SKIN CONTACT: Unlikely to cause skin irritation.

Chronic Effects: Prolonged inhalation of excessive dust may cause lung damage, attributed to lung overloading, a generic response to excessive amounts of any dust retained in the lung for a prolonged interval. Use of this product, as intended, in accordance with the provision of this Material Safety Data Sheet does not result in inhalation of excessive dust.

Medical Conditions Generally known to be Aggravated by Exposure: Not identified.

SECTION 4. FIRST AID MEASURES

FIRST AID MEASURES:

INHALATION: Remove victim to fresh air. Get medical attention if symptoms persist.

INGESTION: Dilute stomach contents with several glasses of water. Get medical attention if symptoms persist.

EYE CONTACT: Flush with running water for at least 15 minutes. If irritation persists, get medical attention.

SKIN CONTACT: Wash with soap and water. If irritation persists, get medical attention.

Note to Physicians: None.

SECTION 5. FIRE FIGHTING MEASURES

FIRE FIGHTING MEASURES:

EXTINGUISHING MEDIA: CO2, water, dry chemicals.

UNSUITABLE	
EXTINGUISHING MEDIA:	None..
SPECIAL FIRE FIGHTING PROCEDURE:	None.
UNUSUAL FIRE AND EXPLOSIVE HAZARDS:	This material, like most organic material in powder form, is capable of creating a dust explosion.
FIRE AND EXPLOSIVE PROPERTIES:	
FLASH POINT(°C):	No data available.
FLAMMABLE (EXPLOSIVE) LIMITS:	No data available.
AUTO-IGNITION TEMPERATURE (°C):	No data available.
FLAMMABILITY:	Non-flammable solid (according to test methods of USA 16 CFR 1500.44 and Annex V of EU Directive 84/449/EEC).
AUTOFLAMMABILITY:	Not applicable.
EXPLOSIVE PROPERTIES:	See 'Unusual Fire and Explosion Hazards'.
OXIDISING PROPERTIES:	No data available.
HAZARDOUS COMBUSTION	
PRODUCTS:	CO ₂ , CO
OTHER PROPERTIES:	Not known.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Avoid breathing dust. Use with adequate ventilation
ENVIRONMENTAL PRECAUTIONS:	Do not wash away into sewer.
METHOD FOR CLEANING UP:	Sweep material onto paper and carefully transfer to a sealable waste container. If a vacuum is used, the motor must be rated as dust tight. A conductive hose bonded to the machine should be used to reduce static build up.

SECTION 7. HANDLING AND STORAGE

HANDLING:	Avoid breathing dust. Use with adequate ventilation. Wash thoroughly after handling.
STORAGE:	Keep out of reach of children. Keep away from contact with oxidising materials. Keep container closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES:	USA OSHA (TWA/PEL): 15mg/m ³ (Total Dust) 5mg/m ³ (Respirable fraction) ACGIH (TWA/TLV): 10mg/m ³ (Total Dust)
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ENGINEERING CONTROLS:	3mg/m ³ (Respirable) DFG (MAK): 6mg/m ³ (Feinstaubkonzentration). (Also refer to Section 2). Good general ventilation should be sufficient under intended use.
PERSONAL PROTECTION EQUIPMENT(S):	
RESPIRATORY PROTECTION:	Not Required
EYE/FACE PROTECTION:	Not Required
SKIN PROTECTION:	Not Required

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Fine powder (brown/red/blue/green).
ODOUR:	Slight plastic odour.
pH:	Not applicable.
BOILING POINT/RANGE (°C):	Not applicable.
MELTING POINT/RANGE (°C):	100-150°C (Softening point).
DECOMPOSITION TEMPERATURE (°C):	No data available.
FLASH POINT (°C):	No data available.
FLAMMABLE (EXPLOSIVE) LIMITS:	No data available.
AUTOIGNITION TEMPERATURE (°C):	No data available.
FLAMMABILITY:	Non-flammable solid (according to test methods of USA 16 CFR 1500.44 and Annex V of EU Directive 84/449/EEC).
AUTOFLAMMABILITY:	Not applicable.
EXPLOSIVE PROPERTIES:	See 'Unusual Fire and Explosion Hazards'.
OXIDISING PROPERTIES:	No data available.
VAPOUR PRESSURE:	Not applicable.
VAPOUR DENSITY (Air=1):	Not applicable.
DENSITY/SPECIFIC GRAVITY:	1.0–4.5
WATER SOLUBILITY:	Negligible.
FAT SOLUBILITY:	Partially soluble in toluene and xylene.
PARTITION COEFFICIENT (N-OCTANOL/WATER):	Not applicable.
PERCENT VOLATILE:	Not applicable.
EVAPORATION RATE:	Not applicable.

SECTION 10. STABILITY AND REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID:	None.
MATERIALS TO AVOID:	Strong Oxidisers.
HAZARDOUS DECOMPOSITION PRODUCTS:	Combustion will produce carbon dioxide and, possibly toxic chemicals such as carbon monoxide.
HAZARDOUS POLYMERISATION:	Will not occur.

CONDITIONS TO AVOID: None.

SECTION 11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

INHALATION:	No data available.
INGESTION:	(Data from similar toner material) Oral LD50: >5000mg/kg (rats).
SKIN CONTACT:	(Data from similar toner material): Not classified as irritant, according to OSHA Hazard Communication Standard (HCS) and EU Directive 67/548/EEC based on test data of rabbits.
EYE CONTACT:	(Data from similar toner material): Not classified as irritant, according to OSHA Hazard Communication Standard (HCS) and EU Directive 67/548/EEC based on test data of rabbits.
SENSITISATION:	No data available.
MUTAGENICITY:	Negative (Ames Test: Salmonella typhimurium).
REPRODUCTIVE TOXICITY:	No reproductive toxic substances according to Annex I of EU Directive 67/548/EEC, California Proposition 65 and DFG.
CARCINOGENICITY:	Carbon black: IARC 2B (Possible human carcinogen based on animal testing). Not listed in NTP, OSHA (USA) regulation, California Proposition 65 and Annex I of EU Directive 67/548/EEC).
OTHERS:	Sub-acute Toxicity – Rats; 90 days inhalation test. Test sample: magnetic toner (mean volume diameter is 6.0 µm). NOEL (No observed effect level): 16/mg ³ .

SECTION 12. ECOLOGICAL INFORMATION

No information indicating any adverse ecological effects. Avoid spills and dispose of in accordance with applicable laws and regulations.

SECTION 13. DISPOSAL CONSIDERATIONS

METHOD OF DISPOSAL: The waste toner could be considered as plastic powder waste. Disposal should be subject to federal, state or local laws.

SECTION 14. TRANSPORT INFORMATION

UN#: 2807
 UN SHIPPING NAME: Magnetised mateial.
 UN CLASSIFICATION: 9
 UN PACKING GROUP: None.
 SPECIAL PRECAUTION: One or more of these products shipped together by air, is regulated as magnetised material.

SECTION 15. REGULATORY INFORMATION

EU INFORMATION

INFORMATION ON THE LABEL:
 SYMBOL AND INDICATION: Not required.
 RISK PHRASE: Not required.
 DANGEROUS INGREDIENTS: Not required.

Specific provisions in relation to protection of man or the environment.

76/769/EEC: Not required.
 (EC)3093/94: Not regulated.
 (EEC) 2455/92: Not regulated.
 OTHERS: None.

**USA Information:
 Information on the Label:**

Signal Word: Not required.
 Hazard warning: Not required.
 Safety Advice: Not required.
 Hazardous Component(s): Not required.

SARA Title III §313:
 Chemical Name Weight %
 In ferrite:
 Copper and compound 5wt% (Masimum).
 (As copper metal: 4wt% (Maximum)
 Zinc and compound: 5wt% (Maximum)

(As zinc metal: 4wt% (Maximum)

California Proposition 65:

Chemical Name Weight %

None.

SECTION 16. OTHER INFORMATION

Literature Reference:

- U.S. Department of Labour, 29CFR Part 1910
- U.S. Environmental Protection Agency, 40CFR Part 372
- U.S. Consumer Product Safety Commission, 16CFR Part 1500
- ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
- U.S. Department of Health and Human Services National Toxicology Program, Annual Report on Carcinogens
- World Health Organisation International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risk of Chemicals to Humans
- DFG, List of MAK and BAT Values
- EU Directive 76/769/EEC, 67/548/EEC, 88/379/EEC and their amendments.
- EU Regulation (EC) 3093/94, (EEC)2455/92 and their amendments.

Other Information:

Additional literature reference:

- IARC Monographs on the Evaluation of the Carcinogenic Risks of Chemicals to Humans, Vol.65, Printing Process and Printing inks, Carbon black and some Nitro Compound, Lyon,
- H.Muhle, B.Bellmann, O. Crreutzenberg, et.al.
Fundamental and Applied Toxicology 17, pp. 280-299 (1991).

ABBREVIATIONS:

- (01) "EU" stands for European Union.
 - (02) 'OSHA PEL' stands for PEL (Permissible Exposure Limit) under Occupational Safety and Health Administration.
 - (03) "ACGIH TLV" stands for TLV (Threshold Limit Value) under American Conference of Governmental Industrial Hygienists.
 - (04) "IARC" stands for International Agency for Research on Cancer.
 - (05) "NTP" stands for National Toxicology Program (USA).
'EU ILV' stands for Indicative Limit Values for Occupational Exposure under EU Directive 91/322/EEC.
"DFG MAK" stands for MAK (Maximale Arbeitsplatzkonzentrationen) under Deutsche Forschungsgemeinschaft
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This information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any other process. And it is based on the level of our knowledge as of the date of preparation.