

**SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**Product Identifier:**

**Product Name:** Canon Cartridge 332 Black (for Laser Beam Printer)  
**Product Code:** 6263B / R10-3034

**Relevant Identified Uses:** Toner for electrophotographic apparatus

**Details of Supplier of Safety Data Sheet:**

**Supplier:** Canon Singapore Pte Ltd  
**Address:** 1 HarbourFront Avenue #04-01 Singapore 098632  
**Telephone Number:** 65-6799 8888  
**E-mail Address:** cspl\_msd@canon.com.sg

**Emergency Telephone Number:** \_\_\_\_\_

**Manufacturer:** Canon Inc.  
**Address:** 30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan

**SECTION 2 HAZARDS IDENTIFICATION**

**Emergency Overview:** Black fine powder, slight plastic odor.

**US Regulatory Status under OSHA HCS:**

Not classified as hazardous.

**US Label Elements under OSHA HCS:**

**Signal Word:** Not required  
**Hazard Warning:** Not required  
**Safety Advice:** Not required  
**Hazardous Component:** Not required

**EU Classification under 1999/45/EC:**

Not classified as dangerous.

**EU Label Elements under 1999/45/EC:**

**Symbol & Indication:** Not required  
**R-Phrase:** Not required  
**S-Phrase:** Not required  
**Dangerous Component:** Not required

**Applicable Label Elements in accordance with Annex V to 1999/45/EC:**

Not required

**Other Hazards:** None

**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS**

Substance or Mixture: Mixture

**Ingredient(s):**

Chemical Name/ Generic Name	CAS #/ EC #	Concentration/ Concentration Range (%)	EU Classification according to 67/548/EEC		EU Classification according to (EC) No 1272/2008		Note to Other Hazards* <sup>2</sup>
			Symbol/ Indication of Danger	R-Phrase* <sup>1</sup>	Hazard Class/ Category Code	Hazard Statement* <sup>1</sup>	
Styrene acrylate copolymer	Confidential	75-85	None	None	None	None	
Wax	Confidential	5-10	None	None	None	None	
Carbon black	1333-86-4/ 215-609-9	5-10	None	None	None	None	(1)
Amorphous silica	7631-86-9/ 231-545-4	1-3	None	None	None	None	(1)
Titanium dioxide	13463-67-7/ 236-675-5	< 1	None	None	None	None	(1)

\*1 Full texts of R-phrase(s) and Hazard statement(s) are listed in SECTION 16

\*2 The following substance(s) is (are) marked with (1), (2) and/or (3)

(1) Substance for which Occupational Exposure Limit(s) is (are) established (See SECTION 8)

(2) PBT substance or vPvB substance under Regulation (EC) No 1907/2006

(3) Substance listed in Candidate List of SVHC for Authorisation under Regulation (EC) No 1907/2006

**Carcinogen(s)**

Chemical Name	CAS#	Reference
Carbon black (5-10%)	1333-86-4	IARC: Group 2B.
Titanium dioxide (< 1%)	13463-67-7	NTP; OSHA; Part 3 of Annex VI to Regulation (EC) No 1272/2008: Not listed.

**SECTION 4 FIRST AID MEASURES**

**First Aid Measures:**

**Inhalation:**

If symptoms are experienced, move victim to fresh air and obtain medical advice.

**Ingestion:**

Rinse mouth. Drink 1 or 2 glasses of water. If irritation or discomfort occurs, obtain medical advice immediately.

**Skin:**

Wash with soap and water. If irritation persists, obtain medical advice.

**Eye:**

Do not allow victim to rub eye(s). Flush with lukewarm, gently flowing water for 5 minutes or until particle is removed. If irritation persists, obtain medical attention.

**Most Important Symptoms and Effects, both Acute and Delayed:**

**Inhalation:**

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

**Ingestion:**

Low acute toxicity. Ingestion is a minor route of entry for intended use of this product.

**Skin:**

May be non-irritant.

**Eye:**

May cause transient slight irritation.

**Chronic Effects:**

Prolonged inhalation of excessive amounts of dust may cause lung damage. Use of this product as intended does not result in inhalation of excessive amounts of dust.

**Indication of Any Immediate Medical Attention and Special Treatment Needed:**

None

**SECTION 5 FIRE FIGHTING MEASURES**

**Extinguishing Media:**

**Suitable Extinguishing Media:**

CO2, water, dry chemicals

**Unsuitable Extinguishing Media:**

None

**Special Hazards:**

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

**Hazardous Combustion Products:**

CO2, CO

**Advice for Fire-fighters:**

Wear gloves, glasses, a mask if necessary.

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures:**

Avoid breathing dust. Wash thoroughly after handling.

**Environmental Precautions:**

Do not wash away into sewer.

**Methods and Material for Containment and Cleaning Up:**

Sweep slowly spilled powder on to paper, and carefully transfer into a waste container. Clean remainder with wet paper, wet cloth or a vacuum cleaner.

If a vacuum cleaner is used, it must rate as a dust explosion-proof type. Fine powder can form explosive dust-air mixtures.

**SECTION 7 HANDLING AND STORAGE**

**Precautions for Safe Handling:**

Avoid breathing dust. Wash thoroughly after handling.  
 Use with adequate ventilation.

**Conditions for Safe Storage, Including Any Incompatibilities:**

Keep out of the reach of children.  
 Keep away from oxidizing materials.

**Specific End Uses:**

Toner for electrophotographic apparatus.  
 For more information, please refer to the instruction of this product.

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control Parameters:**

	USA OSHA PEL	ACGIH TLV	EU OEL
Product (Toner)	PNOR: TWA 15 mg/m <sup>3</sup> (Total dust), TWA 5 mg/m <sup>3</sup> (Respirable fraction)	PNOS: TWA 10 mg/m <sup>3</sup> (Inhalable fraction), TWA 3 mg/m <sup>3</sup> (Respirable fraction)	Not established
Carbon black	TWA 3.5 mg/m <sup>3</sup>	TWA 3 mg/m <sup>3</sup> (Inhalable fraction)	Not established
Amorphous silica	20 mppcf, 80 (mg/m <sup>3</sup> )/%SiO <sub>2</sub>	Not established	Not established
Titanium dioxide	TWA 15 mg/m <sup>3</sup> (Total dust)	TWA 10 mg/m <sup>3</sup>	Not established

**Exposure Controls:**

**Engineering Controls:**

No special ventilation equipment is needed under intended use of this product.

**Individual Protection Measures:**

**Eye/Face Protection:**  Required  
 Not Required

**Skin Protection:**  Required  
 Not Required

**Respiratory Protection:**  Required  
 Not Required

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Information on Basic Physical and Chemical Properties:**

<b>Appearance:</b>	<u>Black fine powder</u>
<b>Odor:</b>	<u>Slight plastic odor</u>
<b>pH:</b>	<u>Not applicable</u>
<b>Melting Point/Freezing Point (°C):</b>	<u>80-130 (Softening point)</u>
<b>Initial Boiling Point and Boiling Range (°C):</b>	<u>Not applicable</u>
<b>Flash Point(°C):</b>	<u>Not applicable</u>
<b>Evaporation Rate:</b>	<u>Not applicable</u>
<b>Flammability:</b>	<u>Estimate: Not-flammable (Test method: Directive 92/69/EEC, A10 Flammability (Solids)) (See SECTION 16)</u>
<b>Upper/Lower Flammable or Explosive Limits:</b>	<u>Not applicable</u>
<b>Vapor Pressure:</b>	<u>Not applicable</u>
<b>Vapor Density:</b>	<u>Not applicable</u>
<b>Relative Density:</b>	<u>1.0-1.2</u>
<b>Water Solubility:</b>	<u>Negligible</u>
<b>Fat Solubility:</b>	<u>Partially soluble in toluene and xylene.</u>
<b>Partition Coefficient (n-Octanol/Water):</b>	<u>Not applicable</u>
<b>Auto-ignition Temperature (°C):</b>	<u>Not available</u>
<b>Decomposition Temperature (°C):</b>	<u>&gt; 200</u>
<b>Viscosity (mPa s):</b>	<u>Not applicable</u>
<b>Explosive Properties:</b>	<u>Can form explosive dust-air mixtures when finely dispersed in air.</u>
<b>Oxidizing Properties:</b>	<u>Not available</u>
<b>Other Information:</b>	<u>Not available</u>

**SECTION 10 STABILITY AND REACTIVITY**

<b>Reactivity:</b>	<u>None</u>
<b>Chemical Stability:</b>	<input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable
<b>Possibility of Hazardous Reactions:</b>	<u>None</u>
<b>Conditions to Avoid:</b>	<u>None</u>
<b>Incompatible Materials:</b>	<u>Strong oxidizers</u>
<b>Hazardous Decomposition Products:</b>	<u>CO, CO2</u>

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Information on Toxicological Effects:**

**Acute Toxicity:**

**Inhalation:**

Not available

**Ingestion:**

Estimate: Rat, LD50 > 2000 mg/kg (See SECTION 16)

**Corrosivity/Irritation:**

**Skin:**

Estimate: Rabbit, non-irritant (See SECTION 16)

**Eye:**

Estimate: Rabbit, transient slight conjunctival irritation only. (See SECTION 16)

**Sensitization:**

**Skin:**

Estimate: Non-sensitizing (See SECTION 16)

**Repeated Dose Toxicity:**

Muhle et al. reported pulmonary response upon chronic inhalation exposure in rats to a toner enriched in respirable-sized particles compared to commercial toner. No pulmonary change was found at 1 mg/m<sup>3</sup> which is most relevant to potential human exposure. A minimal to mild degree of fibrosis was noted in 22% of the animals at 4 mg/m<sup>3</sup>, and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16 mg/m<sup>3</sup>.

These findings are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lung for a prolonged interval.

**Carcinogenicity:**

The IARC evaluated carbon black and titanium dioxide as Group 2B carcinogens, for which there are inadequate human evidences, but sufficient animal evidences. The latter are based upon the evidences such as development of lung tumors in rats receiving chronic inhalation exposure to powdered carbon black and titanium dioxide at levels that induce particle overload of the lung.

However, there are inhalation studies of a toner containing carbon black and a toner containing titanium dioxide which demonstrated or suggested no association between toner exposure and tumor development in rats.

**Mutagenicity:**

Ames Test (S. typhimurium, E. coli): Negative

**Toxicity for Reproduction:**

Not available

**Other Information:**

Not available

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity:** Estimate: Fish, 96h LC50 > 100 mg/l  
 Estimate: Crustaceans, 48h EC50 > 100 mg/l  
 Estimate: Algae, ErC50(0-72h) > 100 mg/l (See SECTION 16)

**Persistence and Degradability:** Not available

**Bioaccumulative Potential:** Not available

**Mobility in Soil:** Not available

**Results of PBT and vPvB Assessment:** No results that the component(s) of this toner meet(s) the PBT or vPvB criteria under Regulation (EC) No 1907/2006.

**Other Adverse Effects:** Not available

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste Treatment Methods:**  
 DO NOT put toner or toner container into fire; heated toner may cause severe burns. DO NOT shred a toner container, unless dust-explosion preventing measures are taken. Finely dispersed particles form explosive mixtures in air. Disposal should be subject to federal, state and local laws.

**SECTION 14 TRANSPORT INFORMATION**

**UN Number:** None

**UN Proper Shipping Name:** None

**Transport Hazard Class:** None

**Packing Group:** None

**Environmental Hazards:** Not classified as environmentally hazardous under UN Model Regulations and marine pollutant under IMDG Code.

**Special Precautions for User:** None

**SECTION 15 REGULATORY INFORMATION**

< USA Information >

**SARA Title III §313:**

Chemical Name	Weight %
None	

**California Proposition 65:**

Chemical Name	Weight %
None	

< EU Information >

**Safety, Health and Environmental Regulations/Legislation:**

(EC) No 1907/2006: **Authorisation:** Not regulated  
**Restriction:** Not regulated

(EC) No 1005/2009: Not regulated

(EC) No 850/2004: Not regulated

(EC) No 689/2008: Not regulated

**Others:** None

**Chemical Safety Assessment under (EC) No 1907/2006:** Not required

**SECTION 15 REGULATORY INFORMATION (continued)**

< **Canada Information** >

**WHMIS Controlled Product:** Not applicable (Manufactured article)

< **Australia Information** >

**Statement of Hazardous Nature:** Not classified as hazardous according to criteria of NOHSC.

**SECTION 16 OTHER INFORMATION**

<Term explanation>

Estimate: Estimate based on data of similar product or the ingredient(s) of this product.

**Literature References:**

- U.S. Department of Labor, 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 Organization International Agency for Research on Cancer, IARC Monographs on the Evaluation on the Carcinogenic Risk of Chemicals to Humans
- EU Directive 1999/45/EC
- EU Regulation (EC) No 1907/2006, (EC) No 1272/2008, (EC) No 1005/2009, (EC) No 850/2004, (EC) No 689/2008
- Canada Workplace Hazardous Materials Information System
- Australia National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances[NOHSC:1008]

**Abbreviations:**

- OSHA HCS: Occupational Safety and Health Act, Hazard Communication Standard (USA)
- FHSA: Federal Hazardous Substances Act (USA)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- SVHC: Substances of Very High Concern
- IARC: International Agency for Research on Cancer
- NTP: National Toxicology Program (USA)
- OSHA PEL: PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration (USA)
- ACGIH TLV: TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists
- EU OEL: Occupational exposure limits at Community level under Directive 2004/37/EC, 98/24/EC, 91/322/EEC, 2000/39/EC, 2006/15/EC and 2009/161/EU
- TWA: Time Weighted Average
- STEL: Short Term Exposure Limit
- PNOR: Particulates Not Otherwise Regulated
- PNOS: Particles (insoluble or poorly soluble) Not Otherwise Specified
- WHMIS: Workplace Hazardous Materials Information System
- NOHSC: National Occupational Health and Safety Commission

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