

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

**Product Name:** Canon Cartridge 416 Yellow (for Multi Function Printer)  
**Product Code:** 1977B / R04-6141  
**Company Name:** Canon Inc.  
**Address:** 30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan  
**Use of the Product:** Toner for electrophotographic apparatus

Supplier: Canon Singapore Pte Ltd  
 1 HarbourFront Avenue,  
 #04-01, Keppel Bay Tower,  
 Singapore 098632  
 cspl\_msds@canon.com.sg

**SECTION 2 HAZARDS IDENTIFICATION**

**EU Classification:** Not classified as dangerous.

**Emergency Overview:** Yellow fine powder, slight plastic odor

**Potential Health Effects and Symptoms:**

**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.

**Eye:**

May cause transient slight irritation.

**Skin:**

May be non-irritant.

**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.

**Medical Conditions Generally known to be Aggravated by Exposure:**

Not determined

**SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS**

< **Ingredient(s)** >

Chemical Name / Generic Name	CAS # / EC #	Weight %	EU Symbol/ R-Phrase	USA OSHA PEL	ACGIH TLV	EU ILV	DFG MAK
Styrene acrylate copolymer	Confidential	75-85	None/ None	Not established	Not established	Not established	Not established
Wax	Confidential	5-10	None/ None	Not established	Not established	Not established	Not established
Pigment	Confidential	1-5	None/ None	Not established	Not established	Not established	Not established
Amorphous silica	7631-86-9/ 231-545-4	1-2	None/ None	20 mppcf, 80 (mg/m <sup>3</sup> )/%SiO <sub>2</sub>	Not established	Not established	4 mg/m <sup>3</sup> (Inhalable fraction)

< **Carcinogen** >

No component of this toner is listed as a human carcinogen or a potential carcinogen in IARC Monographs, NTP, OSHA regulations or Part 3 of Annex VI to Regulation (EC) 1272/2008.

< **PBT substance and vPvB substance** >

No component of this toner is a PBT or vPvB substance under Regulation (EC)1907/2006.

**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.

**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.

**Skin:**

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

**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 Procedures:**

None

**Unusual Fire and Explosion Hazards:**

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

**Fire and Explosive Properties (See also SECTION 9):**

**Hazardous Combustion Products:**

CO2, CO

**Other Properties:**

Not available

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:**

Avoid breathing dust.

**Environmental Precautions:**

Do not wash away into sewer.

**Method for 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**

**Handling:**

Avoid breathing dust.

Use with adequate ventilation.

**Storage:**

Keep out of the reach of children.

Keep away from oxidizing materials.

**Specific Uses:**

Toner for electrophotographic apparatus.

For more information, please refer to the instruction of this product.

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines:**

USA OSHA PEL (TWA): 15 mg/m<sup>3</sup> (Total dust), 5 mg/m<sup>3</sup> (Respirable fraction)  
 ACGIH TLV (TWA): 10 mg/m<sup>3</sup> (Inhalable fraction), 3 mg/m<sup>3</sup> (Respirable fraction)  
 DFG MAK: 4 mg/m<sup>3</sup> (Inhalable fraction), 1.5 mg/m<sup>3</sup> (Respirable fraction)  
 (Also refer to SECTION 3)

**Engineering Controls:**

Use adequate ventilation.

**Personal Protection Equipment(s):**

- Respiratory Protection:**  Required  
 Not Required
- Eye/Face Protection:**  Required  
 Not Required
- Skin Protection:**  Required  
 Not Required

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Yellow fine powder

**Odor:** Slight plastic odor

**pH:** Not applicable

**Boiling Point/Range(°C):** Not applicable

**Melting Point/Range(°C):** 80-130 (Softening point)

**Decomposition Temperature(°C):** > 200

**Flash Point(°C):** Not applicable

**Flammable (Explosive) Limits:** Not applicable

**Autoignition Temperature(°C):** Not available

**Flammability:** Not-flammable (Test method: Directive 92/69/EEC, A10 Flammability (Solids))

**Explosive Properties:** Can form explosive dust-air mixtures when finely dispersed in air.

**Oxidizing Properties:** Not available

**Vapor Pressure:** Not applicable

**Vapor Density:** Not applicable

**Density / Specific Gravity:** 1.0-1.2

**Water Solubility:** Negligible

**Fat Solubility:** Partially soluble in toluene and xylene.

**Partition Coefficient (n-Octanol/Water):** Not applicable

**Percent Volatile:** Negligible

**Evaporation Rate:** Not applicable

**Viscosity (mPa s):** Not applicable

**SECTION 10 STABILITY AND REACTIVITY**

**Stability:**  Stable  
 Unstable

**Conditions to Avoid:** None

**Materials to Avoid:** Strong oxidizers

**Hazardous Decomposition Products:** CO, CO2

**Hazardous Polymerization:**  May Occur  
 Will Not Occur

**Conditions to Avoid:** None

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Acute Toxicity:**

**Inhalation:**  
Not available

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

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

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

**Sensitization:**  
Estimate: skin: Non-sensitizing (See SECTION 16)

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

**Reproductive Toxicity:**  
Not available

**Carcinogenicity:**  
Not available

**Others:**  
Chronic effects:  
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.

**SECTION 12 ECOLOGICAL INFORMATION**

**Mobility:** Not available

**Persistence / Degradability:** Not available

**Bioaccumulation:** Not available

**Ecotoxicity:** Estimate: Fish, 96h LL50 > 1000 mg/l (WAF) Estimate: Crustaceans, 48h EL50 > 1000 mg/l (WAF) Estimate: Algae, ErL50(0-72h) > 1000 mg/l (WAF) (See SECTION 16)

**Other Adverse Effects:** Not available

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Method of Disposal:**  
 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 #:** None

**UN Shipping Name:** None

**UN Classification:** None

**UN Packing Group:** None

**Marine Pollutant:**  Yes  No Chemical name (wt%):

**Special Precautions:** None

**SECTION 15 REGULATORY INFORMATION**

< EU Information >

**Information on the Label:**

**Symbol & Indication:** Not required

**R-Phrase:** Not required

**S-Phrase:** Not required

**Dangerous Component(s):** Not required

**Special Precautions under 1999/45/EC Annex V:** Not required

**Specific Provisions in Relation to Protection of Man or the Environment:**

**(EC) No 1907/2006 Annex XVII (Restrictions):** Not regulated

**(EC) No 2037/2000:** Not regulated

**(EC) No 689/2008:** Not regulated

**Others:** None

< USA Information >

**Information on the Label under OSHA:**

**Signal Word:** Not required

**Hazard warning:**  
Not required

**Safety Advice:**  
Not required

**Hazardous Component(s):**  
Not required

**SARA Title III §313:**

Chemical Name	Weight %
None	

**California Proposition 65:**

Chemical Name	Weight %
None	

< 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**

Revised information from the previous version: SECTION 1, 12 and 15  
Estimate: Estimate based on test data on similar toner/developer/drum and/or the raw materials 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
- DFG, List of MAK and BAT Values
- EU Directive (EC) No 1907/2006 Annex XVII (Restrictions), 1999/45/EC
- EU Regulation (EC) No 2037/2000, (EC) No 689/2008, (EC) No 1907/2006, (EC) No 1272/2008
- Canada Workplace Hazardous Materials Information System
- Australia National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances[NOHSC:1008]

**Abbreviations:**

EU: European Union.  
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 ILV: Indicative Limit Values for Occupational Exposure under EU Directive 91/322/EEC, 2000/39/EC and 2006/15/EC.  
DFG MAK: MAK(Maximale Arbeitsplatz-Konzentration) under Deutsche Forschungsgemeinschaft.  
TWA: Time Weighted Average.  
STEL: Short Term Exposure Limit.  
IARC: International Agency for Research on Cancer.  
NTP: National Toxicology Program (USA).  
OSHA HCS: Occupational Safety and Health Act, Hazard Communication Standard (USA).  
FHSA: Federal Hazardous Substances Act (USA).  
WHMIS: Workplace Hazardous Materials Information System.  
NOHSC: National Occupational Health and Safety Commission.  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative

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