



## MATERIAL SAFETY DATA SHEET

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MSDS #: TN1120-0101

Product Code: 1473A / F42-3132,

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name:	Canon Starter (Yellow) for CLC1100 series						
Product Code:	1473A / F42-3132, F42-3133						
Manufacturer:	Canon Inc., 30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo, Japan, Ph # 03-3758-2111						
Supplier:	Canon USA, Inc., One Canon Park, Melville, NY 11747, USA						
Phone # :	1-800-OK-CANON			24 Hr. Emergency CHEMTREC # 1-800-424-9300			

### SECTION 2 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
Ferrite including manganese	Not registered	90-95 (As Mn: 17-19)	None/ None	5mg/m <sup>3</sup> (Ceiling) Manganese compounds (as Mn)	0.2mg/m <sup>3</sup> (TWA) Manganese elemental, and inorganic compounds, as Mn	Not established	0.5mg/m <sup>3</sup> (Inhalable fraction) Manganese and its inorganic compounds
Polyester resin	Confidential	5-10	None/ None	Not established	Not established	Not established	Not established
Pigment	Confidential	< 1	None/ None	Not established	Not established	Not established	Not established

#### < Carcinogen >

Chemical Name	CAS #	Reference

No component of this toner is listed as a human carcinogen or a potential carcinogen in IARC Monographs, NTP, OSHA regulations or Annex I to Directive 67/548/EEC.

### SECTION 3 HAZARDS IDENTIFICATION

#### EU Classification:

Not classified as dangerous.

#### Emergency Overview:

Yellowish gray fine powder, slight plastic odor.

Inhalation of excessive amount of manganese powder may cause cough, shortness of breath or pneumonitis.

#### Potential Health Effects and Symptoms:

##### Inhalation:

Inhalation of excessive amounts of manganese powder may cause cough, shortness of breath or pneumonitis.

##### 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 manganese powder may cause lung damage and nervous system effects. Normal use and handling of this product does not result in inhalation of excessive amounts of manganese powder.

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

Not determined

**SECTION 4 FIRST AID MEASURES****First Aid Measures:****Inhalation:**

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

**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:**

CO<sub>2</sub>, 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:**

CO<sub>2</sub>, CO

**Other Properties:**

Not available

**SECTION 6 ACCIDENTAL RELEASE MEASURES****Personal Precautions:**

Do not breathe dust. Wash thoroughly after handling.

**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:**

Do not breathe dust. Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation.

**Storage:**

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): 15mg/m<sup>3</sup> (Total dust), 5mg/m<sup>3</sup> (Respirable fraction)ACGIH TLV (TWA): 10mg/m<sup>3</sup> (Inhalable fraction), 3mg/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 2)

**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**

<b>Appearance:</b>	Yellowish gray fine powder
<b>Odor:</b>	Slight plastic odor
<b>pH:</b>	Not applicable
<b>Boiling Point/Range(°C):</b>	Not applicable
<b>Melting Point/Range(°C):</b>	85-120(Softening point)
<b>Decomposition Temperature(°C):</b>	>200
<b>Flash Point(°C):</b>	Not applicable
<b>Flammable (Explosive) Limits:</b>	Not applicable
<b>Autoignition Temperature(°C):</b>	Not available
<b>Flammability:</b>	Not-flammable (Test method : Directive 92/69/EEC, A10 Flammability (Solids))
<b>Explosive Properties:</b>	Can form explosive dust-air mixtures when finely dispersed in air.
<b>Oxidizing Properties:</b>	Not available
<b>Vapor Pressure:</b>	Not applicable
<b>Vapor Density:</b>	Not applicable
<b>Density / Specific Gravity:</b>	4.0-6.0
<b>Water Solubility:</b>	Negligible
<b>Fat Solubility:</b>	Partially soluble in toluene and xylene.
<b>Partition Coefficient (n-Octanol/Water):</b>	Not applicable
<b>Percent Volatile:</b>	Negligible
<b>Evaporation Rate:</b>	Not applicable
<b>Viscosity (mPa s):</b>	Not applicable

**SECTION 10 STABILITY AND REACTIVITY**

**Stability:**  Stable  
 Unstable

**Conditions to Avoid:** None

**Materials to Avoid:** Strong oxidizers

**Hazardous Decomposition Products:** CO, CO<sub>2</sub>

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

**Conditions to Avoid:** None

**SECTION 11 TOXICOLOGICAL INFORMATION****Acute Toxicity:****Inhalation:**

Not available

**Ingestion:**

Estimate : Rat, LD<sub>50</sub> > 2000mg/kg

**Eye:**

Estimate : Rabbit, transient slight conjunctival irritation only.

**Skin:**

Estimate : Rabbit, non-irritant

**Sensitization:**

Not available

**Mutagenicity:**

Estimate : Ames Test (Salmonella typhimurium) : Negative

**Reproductive Toxicity:**

Manganese and its inorganic compounds:

There is a study showing that prolonged inhalation of excessive amounts of manganese powder may cause adverse effects on the fertility of male workers. However, normal use and handling of this product, as intended, does not result in inhalation of excessive amounts of manganese powder.

**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 1mg/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 4mg/m<sup>3</sup>, and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16mg/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.



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### SECTION 12 ECOLOGICAL INFORMATION

**Mobility:** Not available

**Persistence / Degradability:** Not available

**Bioaccumulation:** Not available

**Ecotoxicity:** Not available

**Other Adverse Effects:** Not available

### SECTION 13 DISPOSAL CONSIDERATION

#### Method of Disposal:

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 Chemical name (wt%):  
 No

**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):**  
None

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

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

**76/769/EEC:** Not regulated

**(EC)2037/2000:** Not regulated

**(EC)304/2003:** Not regulated

**Others:** None

#### < USA Information >

##### Information on the Label:

**Signal Word:** CAUTION!

**Hazard warning:**  
PROLONGED INHALATION OF EXCESSIVE AMOUNTS OF MANGANESE MAY CAUSE LUNG  
DAMAGE AND NERVOUS SYSTEM EFFECTS.

**Safety Advice:**

- Do not breathe dust.
- Do not taste or swallow.
- For additional information, see MSDS for this product.

**Hazardous Component(s):**

Ferrite including manganese(Manganese compound)

**SARA Title III §313:**

<b>Chemical Name</b>	<b>Weight %</b>
Manganese compounds	90-95
(as Mn)	(17-19)

**California Proposition 65:**

<b>Chemical Name</b>	<b>Weight %</b>
None	

**< Canada Information >**

<b>WHMIS Controlled Product:</b>	Not a controlled product
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**< Australia Information >**

<b>Statement of Hazardous Nature:</b>	Not classified as hazardous according to criteria of NOHSC.
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**SECTION 16 OTHER INFORMATION**

Revised information from the previous version:

Entirely revised

**Literature Reference:**

- 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 76/769/EEC, 67/548/EEC, 1999/45/EC
- EU Regulation (EC)2037/2000, (EC)304/2003
- Canada Workplace Hazardous Materials Information System
- Australia National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances[NOHSC:1008]

**Abbreviations:**

- "EU" stands for European Union.
- "OSHA PEL" stands for PEL(Permissible Exposure Limit) under Occupational Safety and Health Administration(USA).
- "ACGIH TLV" stands for TLV(Threshold Limit Value) under American Conference of Governmental Industrial Hygienists.
- "EU ILV" stands for Indicative Limit Values for Occupational Exposure under EU Directive 91/322/EEC and 2000/39/EC.
- "DFG MAK" stands for MAK(Maximale Arbeitsplatzkonzentrationen) under Deutsche Forschungsgemeinschaft.
- "TWA" stands for Time Weighted Average.
- "IARC" stands for International Agency for Research on Cancer.
- "NTP" stands for National Toxicology Program (USA).
- "OSHA HCS" stands for Occupational Safety and Health Act, Hazard Communication Standard(USA).
- "FHS" stands for Federal Hazardous Substances Act(USA).
- "WHMIS" stands for Workplace Hazardous Materials Information System.
- "NOHSC" stands for National Occupational Health and Safety Commission Act 1985.

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