Canon

MATERIAL SAFETY DATA SHEET

MSDS #: TN1118-0302
Product Code: 1461A / F42-3112

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

Product Name: Canon Starter (Cyan) for CLC1100 series

Product Code: 1461A / F42-3112

Company Name: Canon Inc.

Address: 30-2, Shimomaruko 3-Chome, Ohta-ku, Tokyo 146-8501, Japan

Use of the Product: Toner for electrophotographic apparatus

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: 16-18)	None/ None	5 mg/m^3 (Ceiling) Manganese compounds (as Mn)	0.2 mg/m^3 (TWA) Manganese elemental, and inorganic compounds, as Mn	Not established	0.5 mg/m^3 (Inhalable fraction) Manganese and its inorganic compounds
Polyester resin	Confidential	5-10	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:

Cyanish 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:

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 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:

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:

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 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^3 (Total dust), 5 mg/m^3 (Respirable fraction)
ACGIH TLV (TWA): 10 mg/m^3 (Inhalable fraction), 3 mg/m^3 (Respirable fraction)
DFG (MAK): 4 mg/m^3 (Inhalable fraction), 1.5 mg/m^3 (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

Appearance:	Cyanish gray fine powder.
Odor:	Slight plastic odor
pH:	Not applicable
Boiling Point/Range(°C):	Not applicable
Melting Point/Range(°C):	85-120 (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:	4.0-6.0
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:

Not available

Mutagenicity:

Estimate: Ames Test (S. typhimurium): Negative (See Section 16)

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 1 mg/m^3 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^3, and a mild to moderate degree of fibrosis was observed in 92% of the animals at 16 mg/m^3. 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: Not available

Other Adverse Effects: Not available

SECTION 13 DISPOSAL CONSIDERATIONS

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):
Not required

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 under OSHA:

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):

Not required

SARA Title III §313:

Chemical Name	Weight %
"Manganese compounds"	90-95
(as Mn)	(16-18)

California Proposition 65:

Chemical Name	Weight %
None	

< Canada Information >

WHMIS Controlled Product: Not a controlled product

< 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 11 and 15

Estimate: Estimate based on test data on similar toner/developer/drum and/or the raw materials of this product.

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: 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 and 2000/39/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).
WAF: Water Accommodated Fraction
LL: Lethal Loading rate
EL: Effective Loading rate
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.