

SAFETY DATA SHEET

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Version Number: 1

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

1.1 Product identifier

Product Name: AC-S0205X toner cartridge

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use(s): Samsung ML-3310D/3310ND/3312ND/3710ND/3710D/3712ND/3712DW, SCX-5737FW/4833FD/4833FR/5637FR/4835FD/4835FR/5639FR/5739FW

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture EU Classification: Not classified as hazardous according to EU Directive 1999/45/EC.

Australia Classification: Not classified as hazardous according to the criteria of NOHSC.

2.2 Label elements Label elements according to EU Directive 1999/45/EC: None

2.3 Other hazards None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3 Mixtures

Styrene-acrylate Toner (Mixture).

Chemical Name	CAS No.	EC No	%W/W	EU Hazard Symbols	EU Hazard Symbols
Styrene-acrylate Copolymer	Confidential	not applicable	80~87	Not classified	Not classified
Carbon Black	1333-86-4	215-609-9	4~7	Not classified	Not classified
Paraffin Wax	Confidential	not applicable.	3~6	Not classified	Not classified
Fatty Acid Ester	Confidential	not applicable.	2~4	Not classified	Not classified
Silicon Dioxide	Confidential	not applicable.	0.5~4.5	Not classified	Not classified

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Obtain immediate medical attention. In case of accident by inhalation remove casualty to fresh air and keep at rest.

Skin Contact: Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.

Eye Contact: Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.

Ingestion: Obtain medical attention. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink.

4.2 Most important symptoms and effects, both acute and delayed If symptoms persist, obtain medical attention.

4.3 Indication of any immediate medical attention and special treatment needed Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media: Extinguish preferably with dry chemical, Carbon dioxide, Water spray, Foam.

Unsuitable Extinguishing Media: Do not use water jet.

5.2 Special hazards arising from the substance or mixture May form explosible dust clouds in air.

5.3 Advice for fire-fighters Do not use high-pressure water in order to prevent creating a dust cloud and spreading fire dust. Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures Avoid generation of dust. Do not breathe dust.
A suitable dust mask or dust respirator with filter type A/P may be appropriate.

6.2 Environmental precautions Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

6.3 Methods and material for containment and cleaning up Sweep the spilt toner or remove it with a vacuum cleaner and transfer into a sealed container carefully. Sweep slowly to minimize generation of dust during clean-up. If a vacuum cleaner is used, the motor must be rated as dust explosion-proof.

Potential for very fine particles to be taken into the vacuum only to be passed back into the environment due to pore size in the bag or filter.
DISPOSAL CONSIDERATIONS - See Section: 13.

6.4 Reference to other sections See Section: 8.

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling Keep out of the reach of children. Avoid dust generation. Avoid inhalation of high concentrations of dust. Avoid contact with eyes.
- 7.2 Conditions for safe storage, including any incompatibilities Keep out of the reach of children. Keep away from oxidizing agents.
- 7.3 Specific end use(s) These products are black toner in a cartridge for Samsung laser printers, multifunction devices and fax receivers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits:

Substance	CAS No.	OSHA PEL	ACGIH TLV	EU IOELV
Carbon Black	1333-86-4	3.5 mg/m ³ TWA	3 mg/m ³ TWA	None.
Paraffin Wax	8002-74-2	None.	2 mg/m ³ TWA	None.
Silicon Dioxide (amorphous)	84491-94-7	20mppcf	None.	None.
		80 (mg/m ³)/% SiO ₂		
Silicon Dioxide (amorphous)	112945-52-5	20mppcf	None.	None.
		80 (mg/m ³)/% SiO ₂		

Additional Information:

USA OSHA PEL (TWA): 15 mg/m³ (Total Dust) 5mg/m³ (Respirable Fraction).

ACGIH TLV (TWA): 10 mg/m³ (Inhalable particles) 3 mg/m³ (Respirable particles).

8.2 Exposure controls

Not normally required.

Appropriate engineering controls

Good general ventilation should be sufficient under normal use.

Personal Protection

Not normally required. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:

Eye/face protection

Goggles.

Skin protection

Protective gloves.

Respiratory protection

Dust mask. (Large spillages: Respirator).

Other:

Not applicable.

Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance (20 0C):

Solid, Powder.

Color:

Black.

Odor:

Odorless.

Boiling point/boiling range (°C):

Not applicable.

Melting point (°C) / Freezing point (°C):

No data.

Vapor pressure (Pascal):	Not applicable.
pH (Value):	Not applicable.
Viscosity (mPa. s):	Not applicable.
Flash point (°C):	Not applicable.
Explosive limit ranges:	No data.
Explosive properties:	May form explosible dust clouds in air.
Specific Gravity:	No data.
Vapor density (Air=1):	Not applicable.
Partition coefficient (n-Octanol/water):	No data.
Relative Evaporation Rate (Butyl Acetate = 1):	Not applicable.
Oxidising properties:	No data.
Solubility (Water):	Negligible.
Solubility (Other):	No data.

9.2 Other information None.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	None anticipated.
10.2 Chemical stability	Stable.
10.3 Possibility of hazardous reactions	None.
10.4 Conditions to avoid	Keep at temperature not exceeding: 200°C. Avoid friction, sparks, or other means of ignition.
10.5 Incompatible materials	Strong oxidising agents.
10.6 Hazardous Decomposition Product(s)	Contains: Carbon monoxide, Carbon dioxide and Nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11 Information on toxicological effects	
Acute toxicity:	
Ingestion:	Acute LD50 > 2000mg/kg (Method: OECD#420)
Inhalation:	Acute LC50 > 3.4mg/l (The highest technically achievable concentration) (Method: OECD#436)
Skin Contact:	No data.
Eye Contact:	No data.
Skin corrosion/irritation:	Non-irritant. (Method: OECD#404)
Serious eye damage/irritation:	Slight irritant to the eye. (Method: OECD#405)
Respiratory or skin sensitization:	It is not a skin sensitizer. (Method: OECD#429)
Mutagenicity:	Negative. (Method: OECD#471 / Ames test)
Carcinogenicity:	Carbon Black: In 1996, the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals, for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung.

Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

Other ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA.

Reproductive toxicity:

No data.

STOT-single exposure:

No data.

STOT-repeated exposure:

No data.

Aspiration hazard:

No data.

Potential Health Effects from overexposure:

Routes of exposure:

Skin Contact, Eye Contact, Inhalation (Dust).

Minimal respiratory tract irritation may occur as with large amounts of any non-toxic dust. Thermal decomposition will evolve toxic and irritant vapors.

Combustion products: See Section: 10.

Potential Health Effects:

Routes of exposure:

Skin Contact, Eye Contact, Inhalation (Dust).

Inhalation (Dust). For large quantities:

May cause irritation to the respiratory system. Effects and Symptoms -Increased difficulty in breathing. Sneezing. Coughing. Use this product as intended in order to prevent the dust leakage that leads to exposure.

Skin Contact:

No specific effects and/or symptoms have been reported or known.

Eye Contact:

may cause eye irritation. Use this product as intended in order to prevent the dust leakage that leads to exposure.

Ingestion:

May cause stomach ache. Unlikely route of exposure.

SECTION 12: ECOLOGICAL INFORMATION

No data available on the adverse effects of this product on the environment.

12.1 Toxicity	No data.
12.2 Persistence and degradability	No data.
12.3 Bioaccumulative potential	No data.
12.4 Mobility in soil	No data.
12.5 Results of PBT and vPvB assessment	No data.
12.6 Other adverse effects	No data.

SECTION 13: DISPOSAL CONSIDERATIONS

- 13 Waste treatment methods Do not put toner or toner cartridges into a fire, this can cause fire to spread with the risk of causing burn injuries. Shred toner cartridges in a dust/explosion controlled environment. Finely dispersed particles may form explosive mixtures in the air. Dispose of in compliance with Federal, State and local regulations

SECTION 14: TRANSPORT INFORMATION

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

- 14.1 UN number None.
14.2 Proper Shipping Name None.
14.3 Transport hazard class(es) None.
14.4 Packing Group None.
14.5 Environmental hazards None.
14.6 Special precautions for user None.
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

SECTION 15: REGULATORY INFORMATION

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU: Not classified as dangerous for supply/use. (1999/45/EC,67/548/EEC) Hazard Symbol, Risk Phrases, Safety Phrases: None assigned.
USA: All chemicals in this product comply with TSCA rules and regulations including TSCA Section 5 (Inventory Rules).
WHMIS: Not applicable. (Manufactured article)
- 15.2 Chemical Safety Assessment No.

SECTION 16: OTHER INFORMATION

- Hazard Symbol: None.
Risk Phrases: None.
The following sections contain revisions or new statements: All Sections.
Additional information: The information relates only to this product. It may not be valid, if used in combination with any other materials or in any other process, and it is based on our best knowledge as of the date of preparation (revision).
References: U.S. 29CFR Part 1910
ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
EU Directive 91/322/EEC and 2000/39/EC
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans World Health Organization
NTP 11th Report on Carcinogens

Abbreviations:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International carriage of Dangerous goods by Road (EU)

DOT: Department Of Transportation (US)

EINECS: European Inventory of Existing Commercial Chemical Substances HCS: Hazard Communication Standard (US)

IARC: International Agency for Research on Cancer IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods IOELV: Indicative Occupational Exposure Limit Value

NOHSC: National Occupational Health and Safety Commission

(Australia)NTP: National Toxicology Program (US)

OSHA: Occupational Safety and Health Administration (US)

PEL: Permissible Exposure Limit

RID: Regulations concerning the International carriage of goods by Rail (EU) TLV: Threshold Limit Value (ACGIH)

TSCA: Toxic Substances Control Act (US)

WHMIS: Workplace Hazardous Material Information System (Canada)