

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3421

Section 1. Product Identification**Product :**

SF-214DV1/SF-214ND1 (Black Developer)

Developer, Black SF-2140

Section 2. Supplier's Name and Address

Sharp Corporation

22-22 Nagaike-cho, Abeno-ku, Osaka, Japan

Local suppliers are listed below. Please contact the nearest supplier for additional information.

(Country)	(Name and Telephone Number)
U.S.A.	Sharp Electronics Corporation Telephone number for information: 1-800-237-4277 Emergency telephone number : 1-800-255-3924
Canada	Sharp Electronics of Canada Ltd. Telephone number for information: 905-890-2100 Emergency telephone number : 1-800-255-3924
United Kingdom	Sharp Electronics (U.K.) Ltd. Telephone number for information: 01923-474013

Section 3. Ingredients

<u>Ingredients</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other Limits</u>
Iron ferrite	1309-38-2 1317-61-9	> 89%	Not listed	Not listed	None
Styrene-Acrylate copolymer	25767-47-9	60-80 %	Not listed	Not listed	None
Carbon black	1333-86-4	> 3%	3.5mg/m	3.5mg/m	None

Section 4. Hazardous Identification (Emergency Overview)

Developer is a black powder containing small amounts of toner and possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner.

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation? Skin? Ingestion?
 Yes No Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of the toner which is included in this developer is over 2,000mg/kg.
 Mutagenicity --- The toner, which is included in this developer, has been tested on the Ames test.
 The result is negative.

Carcinogenicity : 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. While there have been no studies to date using developer, a two-year cancer bioassay using a typical toner preparation containing carbon black (a small amount of toner is included in the developer mixture) demonstrated no association between toner exposure and tumor development in rats.

Signs and Symptoms of Exposure :

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.

Medical Conditions Generally Aggravated by Exposure : None

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Section 5. Health Hazard Data (Continued)

Emergency and First Aid Procedures :

Inhalation --- Remove to fresh air. If effects occur, consult medical personnel.

Eye --- In case of contact, immediately flush eyes with water for 15 minutes.

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: about 5
Vapor Pressure	: Not applicable	Solubility in Water	: Negligible
Vapor Density	: Not applicable	PH	: Not applicable
Evaporation Rate	: Not applicable	Viscosity	: Not applicable
Appearance	: Fine powder	Color	: Black
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: Not applicable
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure	: None
Unusual Fire and Explosion Hazard	: This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact	: None
Sensitivity to Static Charge	: None

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: CO and NO _x
Hazardous Polymerization	: Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove):

Use of a dust mask is recommended when handling a large quantity of toner or during long term exposure, as with any non-toxic dust.

Engineering Control / Ventilation : Not required.

Work / Hygienic Practice : Inhalation should be minimized as with any non-toxic dust.

Steps to be taken in case of Spill or Leak : Sweep up or clean up with vacuum cleaner.

Waste Disposal Method : Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.)	: Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada)	: This product is not a controlled product.		
Transport Information	: This product is not a hazardous material.		
UN No.	: None allocated.		

Section 11. Other Information

References : IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261
 H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie,
 P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299

University staff of several critical programs will be available on both August 31 and September 1 to assist students and family members. Families moving students into the residence halls should carefully review the information sent by Residence Life about traffic flow and unloading areas. The following summarizes the schedule for these two days:

Saturday, August 31

Visitor and Parking Services	9:00a.m.-6:00p.m. (Parking permits will be available for both purchase and pick-up.) Within the Visitor Center, representatives from Financial Aid, Cashier's Office, Registrar, and Hawk Card Office will be available until 4:00p.m.
Residence Life Office (Goodhue Hall)	9:00a.m.-5:00p.m.
Residence Halls open	9:00a.m.
Residence Hall Desks	Low-rise buildings 9:00a.m.-10:00p.m. Wells Hall 9:00a.m.-1:00a.m.
Dining Halls	Lunch 11:00a.m.-1:30p.m. (guest tickets - \$2.70) Dinner 4:00-6:00p.m. (guest tickets - \$3.20) (Students may not use guest meals during opening weekend.)
V.I.P. Association R&R Stations	9:00a.m.-5:00p.m. near the Visitor Center and Wells Hall
University Bookstore/Textbook Services	10:00a.m.-6:00p.m. (Students should bring their detailed class schedule and their ID. IDs for residence hall students should be picked up at their respective residence hall desks. Commuting students may get them at the University Center Information Desk.)
University Center	9:00a.m.-12:30a.m.
Information Center	9:00a.m.-9:00p.m.
Hawk Card Office	9:00a.m.-5:00p.m.
Williams Center	Noon-2:00a.m.

Sunday, September 1

Visitor and Parking Services	9:00a.m.-6:00p.m. Within Visitor and Parking Services, the Cashier, Registrar, and Financial Aid will have representatives 9:00a.m.-4:00p.m.
Residence Life (Goodhue Hall)	9:00a.m.-5:00p.m.
Residence Hall Desks	Low-rise buildings 9:00a.m.-10:00p.m. Wells Hall 9:00a.m.-1:00a.m.
Dining Halls	Continental Breakfast 8:00-10:00a.m. (guest tickets - \$2.25) Lunch 11:00a.m.-1:30p.m. (guest tickets - \$2.70) Dinner 4:00-6:00p.m. This is a campus picnic! (Students may not use guest meals during opening weekend.)
V.I.P. Association R&R Station	9:00a.m.-4:00p.m. (by Visitor Center only)
University Bookstore/Textbook Services	10:00a.m.-6:00p.m.
University Center	9:00a.m.-12:30a.m.
Information Center	9:00a.m.-9:00p.m.
Hawk Card Office	9:00a.m.-5:00p.m.
Williams Center	Noon-11:00p.m.