



Material Safety Data Sheets
SF Series Corporate Copiers

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MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0001

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	: 1.24
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	: > 350°C
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, CO ₂ , 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0021

Section 1. Product Identification

Product :

SF-77T (Black Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	4%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	92%	Not listed	Not listed	None
Nigrosine dye	8005-02-5	4%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

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 this toner is over 10.0g/kg.
 Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0021

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	: 1.1
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	: > 350°C
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, CO ₂ , 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0031

Section 1. Product Identification**Product :**

SF-76T (Black Toner)

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>
Carbon black	1333-86-4	4%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	92%	Not listed	Not listed	None
Nigrosine dye	8005-02-5	4%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

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 this toner is over 10.0g/kg.
 Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

S H A R P

Date Revised: September 29, 1997

Date Issued July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0031

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	: 1.1
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	: > 350°C
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, CO ₂ , 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0041

Section 1. Product Identification**Product :**

SF-85T (Black Toner)

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>
Carbon black	1333-86-4	4.5%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	92.0%	Not listed	Not listed	None
Nigrosine dye	8005-02-5	3.5%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

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

Health Hazards : Acute oral toxicity --- LD₅₀ of this toner is over 5000mg/kg.
Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0041

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	: 1.17
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	: > 350°C
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, CO ₂ , 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0043

Section 1. Product Identification

Product :

SF-90T (Black Toner)

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>
Carbon black	1333-86-4	4%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	65328-52-1	92%	Not listed	Not listed	None
Organic pigment	38833-00-0	4%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

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

Health Hazards : Acute oral toxicity --- LDL₀ of this toner is over 5000mg/kg.
 Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0043

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	: 1.17
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	: > 350°C
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, CO ₂ , 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0061

Section 1. Product Identification**Product :**

SF-720T1 (Black Toner)

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>
Carbon black	1333-86-4	4%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	92%	Not listed	Not listed	None
Nigrosine dye	8005-02-5	4%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

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

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 10.0g/kg.
Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0061

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	: 1.1
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	: > 350°C
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, CO ₂ , 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-00671

Section 1. Product Identification**Product :**

SF-780NT1/SF-780ST1 (Black Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	> 90%	Not listed	Not listed	None
Organic ammonium salt	102561-46-6	< 2%	Not listed	Not listed	None
Polypropylene	9003-07-0	< 2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

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

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 2,000mg/kg.
Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-00671

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	: 1.1
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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-00691

Section 1. Product Identification**Product :**

SF-235NT1/SF-235T1 (Black Toner)

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>
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	> 91%	Not listed	Not listed	None
Organic ammonium salt	160236-81-7	< 2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data**Route(s) of Entry :** Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 5,000mg/kg.
Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-00691

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	: 1.1
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	: > 350°C
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 = 1
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0071

Section 1. Product Identification**Product :**

SF-77T/SF-76T/SF-80T/SF-720T1/SF-750T1 (Black Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	4%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	92%	Not listed	Not listed	None
Nigrosine dye	8005-02-5	4%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

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 this toner is over 10.0g/kg.
 Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0071

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	: 1.1
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 : No data available
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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 : No data available
Sensitivity to Static Charge : No data available

Section 8. Reactivity Data

Stability : Stable
Incompatibility (Material to Avoid) : None
Hazardous Decomposition : CO, CO₂, 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0072

Section 1. Product Identification**Product :**

SF-80T2/SF-720T2/SF-750T2 (Red Toner)

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>
Titanium dioxide	1317-80-2	8%	10mg/m ³	10mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	85%	Not listed	Not listed	None
Organic pigment	6655-84-1	5%	Not listed	Not listed	None
Organic ammonium salt	102561-46-6	2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data

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

Health Hazards : Acute Oral Toxicity: LD₅₀ of this toner is over 10.0g/kg

Carcinogenicity : NTP? IARC Monographs? OSHA Regulated?
 No No No

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 : Accumulation of dust in the respiratory system.**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.

S H A R P

Date Revised: September 29, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0072

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.2
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	: Red
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: No data available
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	: No data available
Sensitivity to Static Charge	: No data available

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: CO, CO ₂ , 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.)	: No data available
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

This MSDS replaces MSDS F-0052 (SF-80T2), F-0062 (SF-720T2), and MSDS F-0072 (SF-750T2) dated 7/20/95.

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0073

Section 1. Product Identification**Product :**

SF-80T3/SF-720T3/SF-750T3 (Blue Toner)

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>
Titanium dioxide	1317-80-2	8%	10mg/m ³	10mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	85%	Not listed	Not listed	None
Organic pigment	147-14-8	5%	Not listed	Not listed	None
Organic ammonium salt	102561-46-6	2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data

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

Health Hazards : Acute Oral Toxicity: LD₅₀ of this toner is over 10.0g/kg

Carcinogenicity : NTP? IARC Monographs? OSHA Regulated?
 No No No

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 : Accumulation of dust in the respiratory system.**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.

S H A R P

Date Revised: September 29, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0073

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.2
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	: Blue
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: No data available
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	: No data available
Sensitivity to Static Charge	: No data available

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: CO, CO ₂ , 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.)	: No data available
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

This MSDS replaces MSDS F-0053 (SF-80T3), F-0063 (SF-720T3), and MSDS F-0073 (SF-750T3) dated 7/20/95.

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-00731

Section 1. Product Identification**Product :**

SF-234MT/SF-234CT/SF-235LT (Black Toner)

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>
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Polypropylene	9003-53-6	> 90%	Not listed	Not listed	None
Styrene-butylacrylate -butylmethacrylate copolymer	29497-14-1	(total for both)	Not listed	Not listed	None
Organic ammonium salt	102561-46-6	< 2%	Not listed	Not listed	None
Polypropylene	9003-07-0	< 1%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

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

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 2,000mg/kg.
Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-00731

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	: 1.1
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	: > 350°C
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0074

Section 1. Product Identification**Product :**

SF-80T4/SF-720T4/SF-750T4 (Brown Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Titanium dioxide	1317-80-2	8.0%	10mg/m ³	10mg/m ³	None
Carbon black	1333-86-4	0.5%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	84.0%	Not listed	Not listed	None
Organic pigment	6992-11-6	3.5%	Not listed	Not listed	None
Organic pigment	6358-37-8	2.0%	Not listed	Not listed	None
Organic ammonium salt	102561-46-6	2.0%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data**Route(s) of Entry : Inhalation?**

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 10.0g/kg.

Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0074

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	: 1.2
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	: Brown
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used) : Not applicable
Ignition Temperature : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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, CO₂, 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-00781

Section 1. Product Identification**Product :**

SD-226NT/SF-226T/SF-226ST (Black Toner)

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

Sharp Electronics (U.K.) Ltd.

Kingdom

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>
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Polystyrene AND Styrene-butylacrylate-butyl- methacrylate copolymer	9003-53-6 29497-14-1	> 85 % (for mixture)	Not listed Not listed	Not listed Not listed	None None
Organic ammonium salt	102561-46-6	< 2%	Not listed	Not listed	None
Polypropylene	9003-07-0	< 2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data**Route(s) of Entry :** Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute Oral Toxicity: LDL_0 of this toner is over 2000mg/kg.

Mutagenicity: The Ames Test results are 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-00781

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	: 1.1
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 : > 350°C
Flammable Limits : (LEL); Not known (UEL); Not known
Extinguishing Media : CO₂, 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 that 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0081

Section 1. Product Identification**Product :**

SF-860T1 (Black Toner)

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>
Carbon black	1333-86-4	6.0%	3.5mg/m ³	3.5mg/m ³	None
Iron oxide	1317-61-9	1.0%	5.0mg/m ³	10.0mg/m ³	None
Styrene-Acrylate copolymer	27136-15-8	91.0%	Not listed	Not listed	None
Organic pigment	32517-36-5	1.5%	Not listed	Not listed	None
Aromatic metal salt	42405-40-3	0.5%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

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 this toner is over 5000mg./kg.
 Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0081

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	: 1.19
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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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, CO₂, 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0082

Section 1. Product Identification**Product :**

SF-860T2 (Red Toner)

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>
Polyester resin	99546-37-9	90%	Not listed	Not listed	None
C.I. Pigment Red 48:3	15782-05-6	3%	Not listed	Not listed	None
C.I. Pigment Yellow 12	6358-85-6	3%	Not listed	Not listed	None
1-Propene homopolymer	9003-07-0	3%	Not listed	Not listed	None
Bis(2-hydroxy-3, 5-di-t-butyl-benzoate)chromate, hydrogen	72869-85-3	1%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data

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

Health Hazards : Acute Oral Toxicity: LD₅₀ of this toner is over 5 g/kg

Carcinogenicity : NTP? No IARC Monographs? No OSHA Regulated? No

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 : Accumulation of dust in the respiratory system.

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.

S H A R P

Date Revised: September 29, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0082

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.1
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	: Red
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: No data available
Flammable Limits	: (LEL); 31 g/m ³ (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	: No data available
Sensitivity to Static Charge	: No data available

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: Strong acids and alkalines
Hazardous Decomposition	: CO, CO ₂ , and NO _x . Also will produce phenol derivatives when heated above 300°C
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.)	: No data available
WHMIS Legislation (Canada)	: This product is not a controlled product.
Transport Information	: This product is not a hazardous material.
UN No.	: None allocated.

Date Revised: September 29, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0083

Section 1. Product Identification**Product :**

SF-860T3 (Blue Toner)

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>
Polyester resin	99546-37-9	90%	Not listed	Not listed	None
C.I. Pigment Blue 15	147-14-8	6%	Not listed	Not listed	None
1-Propene homopolymer	9003-07-0	3%	Not listed	Not listed	None
Bis(2-hydroxy-3, 5-di-t-butyl-benzoate)chromate, hydrogen	72869-85-3	1%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data

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

Health Hazards : Acute Oral Toxicity: LDL_0 of this toner is over 5 g/kg

Carcinogenicity : NTP? No IARC Monographs? No OSHA Regulated? No

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 : Accumulation of dust in the respiratory system.**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.

S H A R P

Date Revised: September 29, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0083

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.1
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	: Blue
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: No data available
Flammable Limits	: (LEL); 31 g/m ³ (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	: No data available
Sensitivity to Static Charge	: No data available

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: Strong acids and alkalines
Hazardous Decomposition	: CO, CO ₂ , and NO _x . Also will produce phenol derivatives when heated above 300°C
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.)	: No data available
WHMIS Legislation (Canada)	: This product is not a controlled product.
Transport Information	: This product is not a hazardous material.
UN No.	: None allocated.

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0084

Section 1. Product Identification**Product :**

SF-860T4 (Brown Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Polyester resin	99546-37-9	90%	Not listed	Not listed	None
C.I. Pigment Red 48:3	15782-05-6	2.0%	Not listed	Not listed	None
C.I. Pigment Yellow 12	6358-85-6	3.0%	Not listed	Not listed	None
C.I. Pigment Blue 15	147-14-8	0.2%	Not listed	Not listed	None
Carbon	7440-44-0	0.2%	Not listed	Not listed	None
1-Propene homopolymer	9003-07-0	3.0%	Not listed	Not listed	None
Bis(2-hydroxy-3, 5-di-t-butyl-benzoate)chromate, hydrogen	72869-85-3	1.0%	Not listed	Not listed	None
Bis[1-(chloro-hydeoxyphenyl)azo] naphtholate-chromate,hydrogen	31714-55-3	0.6%	Not listed	Not listed	None
Silica	68711-44-9	0.2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data**Route(s) of Entry :** Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute Oral Toxicity: LD₅₀ of this toner is over 5 g/kg**Carcinogenicity :** NTP?

No

IARC Monographs?

No

OSHA Regulated?

No

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 : Accumulation of dust in the respiratory system.**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.

S H A R P

Date Revised: September 29, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0084

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.1
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	: Brown
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: No data available
Flammable Limits	: (LEL); 31 g/m ³ (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	: No data available
Sensitivity to Static Charge	: No data available

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: Strong acids and alkalines
Hazardous Decomposition	: CO, CO ₂ , and NO _x . Also will produce phenol derivatives when heated above 300°C
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.)	: No data available
WHMIS Legislation (Canada)	: This product is not a controlled product.
Transport Information	: This product is not a hazardous material.
UN No.	: None allocated.

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0092

Section 1. Product Identification**Product :**

SF-950T2 (Red Toner)

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>
Styrene-Acrylate copolymer	27136-15-8	92.0%	Not listed	Not listed	None
Color pigment	5280-66-0	4.5%	Not listed	Not listed	None
Aromatic metal salt	42405-40-3	3.5%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data

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

Health Hazards : No data available

Carcinogenicity : NTP? IARC Monographs? OSHA Regulated?
 No No No

Signs and Symptoms of Exposure :

Eyes: May cause corneal injury due to mechanical action.

Skin: essentially nonirritating to the skin.

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

Medical Conditions Generally Aggravated by Exposure : Accumulation of dust in the respiratory system.**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.

S H A R P

Date Revised: September 29, 1997

Date Issued : June 10, 1994

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0092

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.14
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	: Red
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: No data available
Ignition Temperature	: No data available
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure	: Wear self contained breathing apparatus.
Unusual Fire and Explosion Hazard	: This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact	: None
Sensitivity to Static Charge	: When suspended in air, the material is sensitive to static charge and combustible.

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: No data available
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.

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0093

Section 1. Product Identification**Product :**

SF-950T3 (Blue Toner)

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>
Styrene-Acrylate copolymer	27136-15-8	92.0%	Not listed	Not listed	None
Color pigment	147-14-8	4.5%	Not listed	Not listed	None
Aromatic metal salt	42405-40-3	3.5%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data

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

Health Hazards : No data available

Carcinogenicity : NTP? IARC Monographs? OSHA Regulated?
 No No No

Signs and Symptoms of Exposure :

Eyes: May cause corneal injury due to mechanical action.

Skin: essentially nonirritating to the skin.

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

Medical Conditions Generally Aggravated by Exposure : Accumulation of dust in the respiratory system.

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.

S H A R P

Date Revised: September 29, 1997

Date Issued : June 10, 1994

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0093

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.14
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	: Blue
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: No data available
Ignition Temperature	: No data available
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure	: Wear self contained breathing apparatus.
Unusual Fire and Explosion Hazard	: This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact	: None
Sensitivity to Static Charge	: When suspended in air, the material is sensitive to static charge and combustible.

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: No data available
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.		

Date Revised: September 29, 1997

Date Issued : June 10, 1994

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0094

Section 1. Product Identification**Product :**

SF-950T4 (Sepia Toner)

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>
Styrene-Acrylate copolymer	27136-15-8	94.5%	Not listed	Not listed	None
Color pigment	6358-85-6	3.5%	Not listed	Not listed	None
Aromatic metal salt	42405-40-3	2.0%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Based on our tests, it does not present an acute health hazard.

Section 5. Health Hazard Data

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

Health Hazards : No data available

Carcinogenicity : NTP? IARC Monographs? OSHA Regulated?
 No No No

Signs and Symptoms of Exposure :

Eyes: May cause corneal injury due to mechanical action.

Skin: essentially nonirritating to the skin.

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

Medical Conditions Generally Aggravated by Exposure : Accumulation of dust in the respiratory system.**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.

S H A R P

Date Revised: September 29, 1997

Date Issued : June 10, 1994

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0094

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.14
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	: Sepia
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: No data available
Ignition Temperature	: No data available
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure	: Wear self contained breathing apparatus.
Unusual Fire and Explosion Hazard	: This material has no unusual fire or explosion hazards.
Sensitivity to Mechanical Impact	: None
Sensitivity to Static Charge	: When suspended in air, the material is sensitive to static charge and combustible.

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: No data available
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.		

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0101-3

Section 1. Product Identification**Product :**

SF-810NT1/SF-810ST1 (Black Toner)

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>
Carbon black	1333-86-4	5-7%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	85-93%	Not listed	Not listed	None
Nigrosin dye	8005-02-5	1-3%	Not listed	Not listed	None
Wax	9003-07-0	<1%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data**Route(s) of Entry : Inhalation?**

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 5,000mg/kg.

Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0101-3

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	: 1.1
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	: > 350°C
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0121-1

Section 1. Product Identification**Product :**

SF-210TD1 (Black Toner)

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>
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	> 90%	Not listed	Not listed	None
Nigrosine dye	8005-02-5	< 2%	Not listed	Not listed	None
Polyolefin wax	9003-07-0	< 2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data**Route(s) of Entry : Inhalation?**

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 2,000mg/kg.

Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0121-1

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	: 1.1
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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0161

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	: 1.1
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	: >350°C		
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)	: Strong acids and alkalines.
Hazardous Decomposition	: CO, CO ₂ 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0281-2

Section 1. Product Identification**Product :**

SF-981ST1 (Black Toner)

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>
Carbon black	1333-86-4	< 7%	3.5mg/m ³	3.5mg/m ³	None
Silica	68909-20-6	< 1%	15mg/m ³	10mg/m ³	None
Polyester resin	NJ TSRN 80100252-5001P	< 90%	Not listed	Not listed	None
Pigment	31714-55-3	< 2%	Not listed	Not listed	None
Polypropylene	9003-07-0	< 2%	Not listed	Not listed	None
Magnetite	1309-38-2	< 3%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data**Route(s) of Entry :** Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute Toxicity: LD50 > 5,000mg/kg. LC50 > 6.42 mg/L'4Hrs

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

(Note: data is from testing of similar materials.)

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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0281-2

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	: 1.2
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)	: Strong acids and alkalines.
Hazardous Decomposition	: Phenol derivatives, Carbon monoxide when heated at high temperature. (> 300°C)
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0301

Section 1. Product Identification

Product :

SF-610DC1 (Black Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	> 90%	Not listed	Not listed	None
Nigrosine dye	8005-02-5	< 2%	Not listed	Not listed	None
Polyolefin wax	9003-07-0	< 2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 2,000mg/kg.

Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0301

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	: 1.1
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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

S H A R P

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Date Revised: March 12, 1997
Date Issued : September 2, 1996

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0361-1

Section 1. Product Identification

Product :

SF-222NT1/SF-222ST1/SF-222T1 (Black Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Polystyrene	9003-53-6	> 60%	Not listed	Not listed	None
Styrene-Acrylate copolymer	29497-14-1	< 30%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Organic ammonium salt	102561-46-6	< 2%	Not listed	Not listed	None
Polypropylene	9003-07-0	< 2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : This material has been tested on "Acute oral toxicity" and "Ames test". It does not represent a health hazard.**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. 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.**Chronic Effect :** In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.**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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0361-1

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	: 1.1
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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0381

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	: 1.1
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	: > 350°C
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0421

Section 1. Product Identification**Product :**

SF-214T1/SF-214NT1 (Black Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Styrene-Acrylate copolymer	25767-47-9	60-80 %	Not listed	Not listed	None
Iron ferrite	1309-38-2	> 9%	Not listed	Not listed	None
	1317-61-9				
Carbon black	1333-86-4	> 3%	3.5mg/m ³	3.5mg/m ³	None
Polypropylene	9003-07-0	< 3%	Not listed	Not listed	None
Styrene-ethylene/butylene copolymer	8005-02-5	< 3%	Not listed	Not listed	None
Titanium dioxide	13463-67-7	< 3%	10mg/m ³	10mg/m ³	10mg/m ³ (U.K)

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

Section 5. Health Hazard Data**Route(s) of Entry : Inhalation?**

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 2,000 mg/kg.

Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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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Date Revised: Feb. 1, 1997

Date Issued July 7, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0421

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	: Faint odor		

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
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0481

Section 1. Product Identification**Product :**

SF-216NT1/SF-216T1 (Black Toner)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m ³	3.5mg/m ³	None
Polystyrene	9003-53-6		Not listed	Not listed	None
Styrene-butylacrylate	29497-14-1	> 85%	Not listed	Not listed	None
-butylmethacrylate copolymer					
Organic ammonium salt	102561-46	< 2%	Not listed	Not listed	None
Polypropylene	9003-07-0	< 2%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard. There are no anticipated carcinogenic effects from exposure based on animal tests performed using toner. When used as intended according to instructions, studies do not indicate any symptoms of fibrosis will occur.

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 this toner is over 2,000mg/kg.
 Mutagenicity --- The result of Ames test 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. 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.

Chronic Effect : In a study in rats of chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of the rats in the high concentration (16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group, but no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0481

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	: 1.1
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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0531

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	: 1.1
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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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 = 1
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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0541

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	: 1.1
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	: > 350°C
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

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Date Revised: November 15, 1999

Date Issued : June 1, 1997

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-30731

Section 1. Product Identification

Product :

SF-234MD/SF-234CD/SF-234LD (Black Developer)

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

Sharp Electronics (U.K.) Ltd.

Kingdom

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>
Magnetite	1317-61-9	> 94%	Not listed	Not listed	None
Styrene-acrylate copolymer	25767-47-9	< 5%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m ³	3.5mg/m ³	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?

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-30731

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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

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Date Revised: November 9, 1998

Date Issued : Oct. 1, 1997

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-30781

Section 1. Product Identification

Product :

SF-226ND/SF-226DV/SF-226SD (Black Developer)

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

Sharp Electronics (U.K.) Ltd.

Kingdom

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>
Magnetite	1317-61-9	> 94%	Not listed	Not listed	None
Polypropylene AND Styrene-butylacrylate-butyl- methacrylate copolymer	9003-07-0 29497-14-1	< 5% (for mixture)	Not listed Not listed	Not listed Not listed	None None
Carbon black	1333-86-4	< 0.3%	3.5mg/m ³	3.5mg/m ³	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?

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-30781

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	: 5.2
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	: Dark Black
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: > 350°C
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-30811

Section 1. Product Identification**Product :**

SF-235ND1/SF-235DV1 (Black Developer, Red Cartridge)

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>
Ferrite carrier		> 95%	Not listed ₃	Not listed ₃	None
Zinc oxide	1314-13-2		5mg/m ³	10mg/m ³	None
Iron oxide	1309-37-1				
Copper oxide	1317-38-0				
Styrene-Acrylate copolymer	25767-47-9	< 4%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	<0.3%	3.5mg/m ³	3.5mg/m ³	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?

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-30811

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

Boiling/Melting Point	: Not applicable	Specific Gravity	: 5.2
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	: Dark Black
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: > 350°C
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3121-1

Section 1. Product Identification**Product :**

SF-210TD1 (Black Developer)

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 Powder	7439-89-6	> 93%	Not listed	Not listed	None
Styrene-Acrylate copolymer	25767-47-9	< 6%	Not listed	Not listed	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m ³	3.5mg/m ³	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?**

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of the toner 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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3121-1

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	: > 350°C
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3141-2

Section 1. Product Identification**Product :**

SF-970ND1/SF-970DV1 (Black Developer)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Ferrite powder		< 98%	Not listed	Not listed	None
Iron oxide	1309-37-1				
Copper oxide	1317-38-0				
Zinc oxide	1314-13-2				
Polyester resin	NJ TSRN 80101252-5001P	< 3%	Not listed ₃	Not listed ₃	None
Carbon Black	1333-86-4	< 1%	3.5mg/m ₃	3.5mg/m ₃	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 developer.

Section 5. Health Hazard Data**Route(s) of Entry :** Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute Toxicity: LD50 > 5,000mg/kg. LC50 > 6.42 mg/L'4Hrs

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

(Note: data is from testing of the included toner.)

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 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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3141-2

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	: 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)	: Strong acids or alkalines
Hazardous Decomposition	: Phenol derivatives, Carbon monoxide when heated at high temperature (> 300°C)
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3301

Section 1. Product Identification**Product :**

SF-610DC1 (Black Developer)

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 Powder	7439-89-6	> 93%	Not listed	Not listed	None
Styrene-Acrylate copolymer	25767-47-9	< 6%	Not listed	Not listed	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m ³	3.5mg/m ³	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?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of the toner 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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Date Revised: March 25, 1997

Date Issued July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3301

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	: > 350°C
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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3361-1

Section 1. Product Identification**Product :**

SF-222ND1/SF-222SD1/SF-222DV1 (Black Developer)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Ferrite		> 94%	Not listed	Not listed	None
Zinc oxide	1314-13-2				
Iron oxide	1309-37-1				
Copper oxide	1317-38-0				
Polystyrene	9003-53-6	< 3%	Not listed	Not listed	None
Styrene-Acrylate copolymer	29497-14-1	< 2%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	< 0.3%	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?**

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : The toner, which is included in this developer, has been tested on "Acute oral toxicity" and "Ames test". It does not represent a health hazard.

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3361-1

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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

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Date Revised: March 25, 1997

Date Issued : November 1, 1992

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3381

Section 1. Product Identification

Product :

SF-235ND1/SF-235DV1 (Black Developer)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Ferrite carrier		> 94%	Not listed	Not listed	None
Zinc oxide	1314-13-2				
Iron oxide	1309-37-1				
Copper oxide	1317-38-0				
Styrene-Acrylate copolymer	25767-47-9	< 5%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	<0.3%	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?

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3381

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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3421

Section 1. Product Identification**Product :**

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

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 ₃	Not listed ₃	None
Carbon black	1333-86-4	> 3%	3.5mg/m ₃	3.5mg/m ₃	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?**

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3421

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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3481

Section 1. Product Identification**Product :**

SF-216ND1/SF-216DV1 (Black Developer)

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>
Magnetite	1317-61-9	> 94%	Not listed	Not listed	None
Polystyrene	9003-53-6	< 5%	Not listed	Not listed	None
Styrene-butylacrylate	29497-14-1		Not listed	Not listed	None
-butylmethaacrylate copolymer					
Carbon black	1333-86-4	< 0.3%	3.5mg/m ³	3.5mg/m ³	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?**

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3481

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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

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Date Revised: August 1, 1996
Date Issued : November 1, 1995

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3531

Section 1. Product Identification

Product :

SF-240ND1/SF-240DV1 (Black Developer)

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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Ferrite		> 94%	Not listed	Not listed	None
Zinc oxide	1314-13-2				
Iron oxide	1309-37-1				
Copper oxide	1317-38-0				
Styrene-Acrylate copolymer	25767-47-9	< 5%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	< 0.3%	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?

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3531

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 : > 350°C
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, 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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-3541

Section 1. Product Identification**Product :**

SF-230ND1/SF-230DV1 (Black Developer)

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>
Ferrite		> 94%	Not listed	Not listed	None
Zinc oxide	1314-13-2				
Iron oxide	1309-37-1				
Copper oxide	1317-38-0				
Polystyrene	9003-53-6	< 3%	Not listed	Not listed	None
Styrene-Acrylate copolymer	25767-47-9	< 2%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m ₃	3.5mg/m ₃	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?

Yes

Skin?

No

Ingestion?

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3541

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	: > 350°C
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

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Date Revised : September 5, 1997

Date Issued : December 26, 1996

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-80731

Section 1. Product Identification

Product :

Silicone Oil for SF-77RL, SF-76AK, SF-710RL, SF-88RL, SF-90RL, SF-960RL, SF-80RL, SF-720RL, SF-750RL, SF-860CP1, SF-955CP1, SF-955KB, SF-810RL, SF-770RL, SF-970CP1, SF-880RU, SF-880RL, SF-730HR, SF-830RU, SF-940RU, CX-750NB, SD-360KA, SD-360UR, SF-360LR, SF-230KB, SF-230KA, SF-240KB

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>
Dimethyl polysiloxane	63148-62-9	100%	Not Listed	Not Listed	None

Section 4. Hazardous Identification (Emergency Overview)

This product does not contain a hazardous component.

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation? No Skin? No Ingestion? No

Health Hazards : Acute estimated LD₅₀ is over 5,000mg/kg.

Carcinogenicity : NTP? No IARC Monographs? No OSHA Regulated? No

Signs and Symptoms of Exposure:

Eye contact: Transient weak irritation.

Skin contact: Almost a non-irritant.

Inhalation: Essentially non-toxic.

Medical Conditions Generally Aggravated by Exposure : No information available

Emergency and First Aid Procedures :

Skin: Remove liquid from skin with a dry cloth or towel and wash exposed area with soap and water.

Eyes: In case of contact, immediately flush eyes with water for at least 15 minutes.

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-80731

Section 6. Physical Chemical Characteristics

Boiling/Melting Point	: Not applicable	Specific Gravity	: 0.97-0.98 (H ₂ O = 1)
Vapor Pressure	: Not applicable	Solubility in Water	: Negligible
Vapor Density	: Not applicable	PH	: Not applicable
Evaporation Rate	: Not applicable	Viscosity	: No data is available
Appearance	: Transparent fluid	Color	: Colorless
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: > 315 ⁰ C
Ignition Temperature	: No information is available.
Flammable Limits	: No information is available.
Extinguishing Media	: CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure	: Self contained breathing apparatus and protective clothing should be worn in fighting fires involving chemicals
Unusual Fire and Explosion Hazard	: None
Sensitivity to Mechanical Impact	: None
Sensitivity to Static Charge	: None

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: SiO ₂ , CO ₂ , and traces of incompletely burned carbon products.
Hazardous Polymerization	: Will not occur.

Section 9. Precautions for Safe Handling and Use**Personal Protection Information (Respiratory, Eye Protection and Protective Glove):**

Safety glasses, rubber or [plastic film gloves, and eye wash equipment. Respiratory protection is not required under normal use

Engineering Control / Ventilation: Not required.

Work / Hygienic Practice: Wash hands thoroughly after handling.

Steps to be taken in case of Spill or Leak : Use absorbant material to collect and contain for salvage or disposal.

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

Section 10. Other Information

NFPA Rating (U.S.A.):	No information is available.
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.

This information relates only to the specific material designated as supplied by the manufacturer. This information is supplied to us by the manufacturer and Sharp offers no warranties as to its accuracy and accepts no responsibility for any typographical errors which may appear on these sheets. It is the responsibility of the user to determine the suitability of this product for each particular use