

# Material Safety Data Sheets SF Series Corporate Copiers

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# MATERIAL SAFETY DATA SHEET (1/2)

# Section 1. Product Identification

MSDS No. F-0001

#### Product :

#### SF-74T (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					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	7%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	None
Epoxy resin polymer	25068-38-6	89%	Not listed	Not listed	None
Organic pigment	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.

ection 5. Health Hazard Data Route(s) of Entry : Inhalation?	Skin?	Ingestion?
Yes	No	Possible but very unusual.
	-	ner is over 5000mg/kg.
Mutagenicity 1	The result of Ames	test is negative.
arcinogenicity : In 1996 the IARC	reevaluated carbo	n black as a Group 2B carcinogen (possible
human carcinogen). This	classification is give	en to chemicals for which there is
inadequate human eviden	ce, but sufficient an	imal evidence on which to base an opinion of
•		pon the development of lung tumors in rats
		carbon black at levels that induce
3	•	ned in animal models other than rats did
•	•	ack and lung tumors. Moreover, a two-year
•		ation containing carbon black demonstrated no
association between tone		
	•	n exposure to a typical toner, a mild to
		ed in 92% of the rats in the high concent-
		mal to mild degree of fibrosis was noted in
22% of the animals in the	middle (4ma/m <sup>3</sup> ) e	kposure group, but no pulmonary change was
		bup, the most relevant level to potential
•	ng/m) exposure gr	Sup, the most relevant level to potential
human exposures.	Aintine al instations de l	
• • • •		respiratory tract may occur as with exposure to
	any non-toxic dust.	
ledical Conditions Generally Aggravation	ted by Exposure :	None

Date Revised: September 29, 1997 Date Issued July 20, 1995

# 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 Chemica			
BoilingMelting Point:Not appliVapor Pressure:Not appliVapor Density:Not appliEvaporation Rate:Not appliAppearance:Fine powOdor:Odorless	cable cable cable /der	Specific Gravity Solubility in Water PH Viscosity Color	<ul> <li>1.24</li> <li>Negligible</li> <li>Not applicable</li> <li>Not applicable</li> <li>Black</li> </ul>
Section 7. Fire and Explosio	n Data		
Flash Point (Method Used) Ignition Temperature Flammable Limits Extinguishing Media Special Fire Fighting Procedure Unusual Fire and Explosion Hazard Sensitivity to Mechanical Impact Sensitivity to Static Charge	<ul> <li>Not applicable</li> <li>&gt; 350<sup>0</sup>C</li> <li>(LEL); Not applicable</li> <li>CO<sub>2</sub>, dry chemical, foam of</li> <li>None</li> <li>This material has no unusue</li> <li>None</li> <li>None</li> <li>None</li> </ul>		
Section 8. Reactivity Data			
Stability Incompatibility (Material to Avoid) Hazardous Decomposition Hazardous Polymerization	<ul> <li>Stable</li> <li>None</li> <li>CO, CO<sub>2</sub>, and NOx</li> <li>Will not occur.</li> </ul>		
Section 9. Precautions for S	afe Handling and Use		
Personal Protection Information (Re	spiratory, Eye Protection an nended when handling a large n-toxic dust. : Not required. : Inhalation should be minim	d Protective Glove): quantity of toner or du ized as with any non-t up with vacuum clean disposed under condi	rring long roxic dust. er. tions which meet all
Section 10. Regulatory Inform	nation		
NFPA Rating (U.S.A.) WHMIS Legislation (Canada) Transport Information UN No.	: Health = 1 Flammab : This product is not a contr : This product is not a hazar : None allocated.	olled product.	tivity = 0
Caption 11 Other Information	-		

# 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

# MATERIAL SAFETY DATA SHEET (1/2)

# Section 1. Product Identification

MSDS No. F-0021

#### 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	4%	3.5mg/m <sup>°</sup>	3.5mg/m	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.

loute(s) of Entry : Inhalatio	<u>n?</u> <u>Skin?</u>	Ingestion?
Yes	No	Possible but very unusual.
ealth Hazards : Acute	oral toxicity LDL <sub>0</sub> of this to	oner is over 10.0g/kg.
Mutage	enicity The result of Ames	e test is negative.
rcinogenicity : In 1990	the IARC reevaluated carbo	on black as a Group 2B carcinogen (possible
human carcino	jen). This classification is giv	ven to chemicals for which there is
inadequate hun	an evidence, but sufficient an	nimal evidence on which to base an opinion of
carcinogenicity	The classification is based	upon the development of lung tumors in rats
receiving chron	c inhalation exposures to fre	e carbon black at levels that induce
particle overloa	d of the lung. Studies perfor	med in animal models other than rats did
not show any a	ssociation between carbon b	black and lung tumors. Moreover, a two-year
cancer bioassa	y using a typical toner prepar	ration containing carbon black demonstrated no
association bet	ween toner exposure and tun	nor development in rats.
hronic Effect : In a stu	dy in rats of chronic inhalation	on exposure to a typical toner, a mild to
moderate degre	e of lung fibrosis was observ	ved in 92% of the rats in the high concent-
		nimal to mild degree of fibrosis was noted in
		exposure group, but no pulmonary change was
		roup, the most relevant level to potential
human exposur		
igns and Symptoms of Expo		respiratory tract may occur as with exposure to
5 · · · · · · · · · · · · · · · · · · ·	any non-toxic dust.	
edical Conditions Generally		

Date Revised: September 29, 1997 Date Issued July 20, 1995

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

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Section 6. Physical Chemica			
BoilingMelting Point : Not appl	icable	Specific Gravity	: 1.1
Vapor Pressure : Not appl		Solubility in Water	: Negligible
Vapor Density : Not appl	icable	PH	: Not applicable
Evaporation Rate : Not appl		Viscosity	: Not applicable
Appearance : Fine pow		Color	: Black
Odor : Odorles	3		
Section 7. Fire and Explosic			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	icable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar	n or water	
Special Fire Fighting Procedure	: None		
<b>Unusual Fire and Explosion Hazard</b>	: This material has no unu	isual fire or explosion ha	azards.
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 <sub>2</sub> , and NOx			
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for S	afe Handling and Us	Se	
<b>Personal Protection Information (Re</b>			
Use of a dust mask is recomm	nended when handling a larg	e quantity of toner or du	uring long
term exposure, as with any no	on-toxic dust.		
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice			
Steps to be taken in case of Spill or			
Waste Disposal Method	: Waste material may b federal, state and loca	e disposed under cond al environmental regula	
Section 10. Regulatory Inform			
NFPA Rating (U.S.A.)			tivity = 0
WHMIS Legislation (Canada)	: This product is not a cor	•	
Transport Information	: This product is not a haz	ardous material.	
UN No.	: None allocated.		
Section 11. Other Informatio	n		

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

# MATERIAL SAFETY DATA SHEET (1/2)

# Section 1. Product Identification

MSDS No. F-0031

#### 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	4%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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.

Route(s) of Entry : <u>Inhalation?</u>	<u>Skin?</u>	Ingestion?
Yes	No	Possible but very unusual.
ealth Hazards : Acute oral toxici	ty LDL <sub>0</sub> of this to	ner is over 10.0g/kg.
Mutagenicity	The result of Ames	test is negative.
rcinogenicity : In 1996 the IAR	C reevaluated carbo	n black as a Group 2B carcinogen (possible
human carcinogen). This	s classification is give	en to chemicals for which there is
inadequate human evide	nce, but sufficient an	nimal evidence on which to base an opinion of
carcinogenicity. The class	ssification is based u	pon the development of lung tumors in rats
receiving chronic inhalati	on exposures to free	e carbon black at levels that induce
particle overload of the lu	ung. Studies perforn	ned in animal models other than rats did
not show any association	n between carbon bl	ack and lung tumors. Moreover, a two-year
cancer bioassay using a	typical toner prepara	ation containing carbon black demonstrated no
association between tone	er exposure and tur	nor development in rats.
hronic Effect : In a study in rate	s of chronic inhalatio	n exposure to a typical toner, a mild to
moderate degree of lung	fibrosis was observ	ed in 92% of the rats in the high concent-
ration (16mg/m <sup>3</sup> ) exposu	re group, and a min	imal to mild degree of fibrosis was noted in
22% of the animals in the	e middle (4mg/m <sup>3</sup> ) e	xposure group, but no pulmonary change was
reported in the lowest (1	mg/m <sup>3</sup> ) exposure gr	oup, the most relevant level to potential
human exposures.	0 / 1 0	
•	Minimal irritation to	respiratory tract may occur as with exposure to
	any non-toxic dust.	
edical Conditions Generally Aggrava	ated by Exposure	None

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.

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Section 6. Physical Chemical			
BoilingMelting Point : Not appli		Specific Gravity	: 1.1
Vapor Pressure : Not appli	cable	Solubility in Water	: Negligible
Vapor Density : Not appli	cable	PH	: Not applicable
Evaporation Rate : Not appli	cable	Viscosity	: Not applicable
Appearance : Fine pow	vder	Color	: Black
Odor : Odorless	;		
Section 7. Fire and Explosio	n Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350°C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	icable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foai	n or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no uni	usual fire or explosion ha	azards.
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 <sub>2</sub> , and NOx		
Hazardous Polymerization	: Will not occur.		
Section 0 Procentions for S	ofo Handling and H	<u> </u>	
Section 9. Precautions for S Personal Protection Information (Re			
Use of a dust mask is recomm		le quantity of toner of du	uring long
term exposure, as with any no			
Engineering Control / Ventilation	: Not required.		terrie altret
Work / Hygienic Practice	: Inhalation should be min		
Steps to be taken in case of Spill or		in up with vacuum clean	
Waste Disposal Method	: Waste material may l federal, state and loc	be disposed under cond al environmental regula	
Section 10. Regulatory Inforr	nation		
NFPA Rating (U.S.A.)		ability = 1 Reac	tivity = 0
WHMIS Legislation (Canada)	: This product is not a co		
Transport Information	: This product is not a ba		
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

# MATERIAL SAFETY DATA SHEET (1/2)

# Section 1. Product Identification

MSDS No. F-0041

#### 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	4.5%	3.5mg/m <sup>°</sup>	3.5mg/m	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.

Route(s) of Ent	ry : Inhalation?	<u>Skin?</u>	Ingestion?
	Yes	No	Possible but very unusual.
ealth Hazards	: Acute oral toxicity	LDL <sub>0</sub> of this tor	ner is over 5000mg/kg.
	Mutagenicity T	he result of Ames t	test is negative.
rcinogenicity	: In 1996 the IARC	reevaluated carbo	n black as a Group 2B carcinogen (possible
ł	numan carcinogen). This	classification is give	en to chemicals for which there is
i	nadequate human evidend	ce, but sufficient an	imal evidence on which to base an opinion of
C	arcinogenicity. The class	ification is based u	pon the development of lung tumors in rats
r	eceiving chronic inhalatior	n exposures to free	e carbon black at levels that induce
r	particle overload of the lun	g. Studies perforn	ned in animal models other than rats did
r	not show any association	between carbon bla	ack and lung tumors. Moreover, a two-year
C	ancer bioassay using a ty	pical toner prepara	ation containing carbon black demonstrated no
a	association between toner	exposure and tum	nor development in rats.
hronic Effect	: In a study in rats of	of chronic inhalation	n exposure to a typical toner, a mild to
r	noderate degree of lung f	ibrosis was observ	red in 92% of the rats in the high concent-
			imal to mild degree of fibrosis was noted in
			xposure group, but no pulmonary change was
			oup, the most relevant level to potential
	human exposures.	<i>c ,</i> . <i>c</i>	
	•	inimal irritation to	respiratory tract may occur as with exposure to
. ,	-	ny non-toxic dust.	
ledical Conditi	ons Generally Aggravat	•	None

Date Revised: September 29, 1997 Date Issued July 20, 1995

# 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 Chemica		0 10 0 1	4.47
BoilingMelting Point : Not app		Specific Gravity	: 1.17
Vapor Pressure : Not app		Solubility in Water	: Negligible
Vapor Density : Not app		PH	: Not applicable
Evaporation Rate : Not app		Viscosity	: Not applicable
Appearance : Fine por		Color	: Black
Odor : Odorles	S		
Section 7. Fire and Explosion	on Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appli	cable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foa		
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no un	usual fire or explosion ha	zards.
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 <sub>2</sub> , and NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for S	Safe Handling and U	se	
Personal Protection Information (R			
Use of a dust mask is recom		ge quantity of toner or du	ring long
term exposure, as with any n			
Engineering Control / Ventilation	•		
Work / Hygienic Practice	: Inhalation should be min	imized as with any non-t	oxic dust.
Steps to be taken in case of Spill of	r Leak : Sweep up or clea	in up with vacuum clean	er.
Waste Disposal Method	: Waste material may l	be disposed under condi	tions which meet all
	federal, state and loc	al environmental regulat	ions.
Section 10. Regulatory Infor	mation		
NFPA Rating (U.S.A.)	: Health = 1 Flamm		ivity = 0
WHMIS Legislation (Canada)	: This product is not a co	ntrolled product.	
	: This product is not a ha	zardous material	
Transport Information	. This product is not a ha		

# 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

# MATERIAL SAFETY DATA SHEET (1/2)

# Section 1. Product Identification

MSDS No. F-0043

#### 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.

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

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	4%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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.

Route(s) of Entr	y : <u>Inhalation?</u>	Skin?	Ingestion?
	Yes	No	Possible but very unusual.
alth Hazards	: Acute oral toxicity	LDL <sub>0</sub> of this tor	ner is over 5000mg/kg.
	Mutagenicity T	he result of Ames	test is negative.
rcinogenicity	: In 1996 the IARC	reevaluated carbo	n black as a Group 2B carcinogen (possible
h	uman carcinogen). This	classification is give	en to chemicals for which there is
in	adequate human evidence	ce, but sufficient an	imal evidence on which to base an opinion of
Ca	arcinogenicity. The class	ification is based u	pon the development of lung tumors in rats
re	eceiving chronic inhalatior	n exposures to free	e carbon black at levels that induce
pa	article overload of the lun	g. Studies perforn	ned in animal models other than rats did
n	ot show any association I	between carbon bla	ack and lung tumors. Moreover, a two-year
Ca	ancer bioassay using a ty	pical toner prepara	ation containing carbon black demonstrated no
a	ssociation between toner	exposure and tum	nor development in rats.
hronic Effect	: In a study in rats of	of chronic inhalation	n exposure to a typical toner, a mild to
m	oderate degree of lung fi	ibrosis was observ	ed in 92% of the rats in the high concent-
ra	ation (16mg/m <sup>3</sup> ) exposure	group, and a mini	imal to mild degree of fibrosis was noted in
			xposure group, but no pulmonary change was
re	ported in the lowest (1m	g/m <sup>3</sup> ) exposure gro	oup, the most relevant level to potential
h	uman exposures.		
	•	linimal irritation to	respiratory tract may occur as with exposure to
	•	ny non-toxic dust.	
edical Conditic	ons Generally Aggravat	•	None

Date Revised: September 29, 1997 Date Issued July 20, 1995

# 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.

	I Characteristics	Specific Crowley	
BoilingMelting Point : Not appl Vapor Pressure : Not appl		Specific Gravity Solubility in Water	: 1.17
		PH	: Negligible
Vapor Density : Not appl			: Not applicable
Evaporation Rate : Not appl		Viscosity	: Not applicable
Appearance : Fine pov		Color	: Black
Odor : Odorless			
Section 7. Fire and Explosio			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	cable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam	or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no unus	ual fire or explosion ha	azards.
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 <sub>2</sub> , and NOx		
Hazardous Polymerization	: Will not occur.		
	<u> </u>		
Section 9. Precautions for S Personal Protection Information (Re			
	nended when handling a large		
term exposure, as with any no			
Engineering Control / Ventilation			
Work / Hygienic Practice	: Inhalation should be minim	vized as with any non t	ovio duct
Steps to be taken in case of Spill or		up with vacuum clean	
Waste Disposal Method	: Waste material may be federal, state and local		
Section 10. Regulatory Inform	nation		
NFPA Rating (U.S.A.)	: Health = 1 Flammat		tivity = 0
	: This product is not a contr		
WHMIS Legislation (Canada)		rdoue matorial	
WHMIS Legislation (Canada) Transport Information	: This product is not a haza	iuous materiai.	
WHMIS Legislation (Canada)	: This product is not a haza : None allocated.	nuous material.	

**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

# MATERIAL SAFETY DATA SHEET (1/2)

# Section 1. Product Identification

MSDS No. F-0061

#### 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	4%	3.5mg/m <sup>°</sup>	3.5mg/m	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.

Route(s) of Entry : <u>Inhalation?</u>	<u>Skin?</u>	Ingestion?
Yes	No	Possible but very unusual.
		ner is over 10.0g/kg.
Mutagenicity T	he result of Ames	test is negative.
rcinogenicity : In 1996 the IARC	reevaluated carbo	n black as a Group 2B carcinogen (possible
human carcinogen). This	classification is give	en to chemicals for which there is
inadequate human evidence	ce, but sufficient an	imal evidence on which to base an opinion of
carcinogenicity. The class	ification is based u	pon the development of lung tumors in rats
receiving chronic inhalation	n exposures to free	e carbon black at levels that induce
3	•	ned in animal models other than rats did
•	• •	ack and lung tumors. Moreover, a two-year
cancer bioassay using a ty	pical toner prepara	ation containing carbon black demonstrated no
association between toner		
		n exposure to a typical toner, a mild to
		ed in 92% of the rats in the high concent-
		imal to mild degree of fibrosis was noted in
		xposure group, but no pulmonary change was
		oup, the most relevant level to potential
human exposures.	.g,,	
•	linimal irritation to	respiratory tract may occur as with exposure to
• • • •	ny non-toxic dust.	
Aedical Conditions Generally Aggravat		Nono

Date Revised: September 29, 1997 Date Issued July 20, 1995

# 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.

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         Flash Point (Method Used)       :       Not applicable       (UEL); Not applicable       ILEL); Not applicable         Ignition Temperature       :       > 350°C       (UEL); Not applicable       Extinguishing Media       :       CO2, dry chemical, foam or water         Special Fire Fighting Procedure       :       None       Sensitivity to Mechanical Impact       :       None         Section 8. Reactivity Data       :       Stable       Incompatibility (Material to Avoid)       :       None         Hazardous Decomposition       :       :       Stable       Personal Protection Information (Respiratory, Eye Protection and Protective Glove):       Use of a dust mask is recommended when handling a large quantity of	Section 6. Physical Chemical BoilingMelting Point : Not applica	
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       Exploration         Flash Point (Method Used)       :       Not applicable       Islack         Ignition Temperature       :       > 350°C       Flash Point (Method Used)       :         Flash Point (Method Used)       :       Not applicable       (UEL); Not applicable         Ignition Temperature       :       > 350°C       Flash Point (Method Used)       :         Flash Point (Method Ised)       :       None       Secial Fire Fighting Procedure       :       None         Sensitivity to Mechanical Impact       :       None       Section 8. Reactivity Data       Stable         Incompatibility (Material to Avoid)       :       None       Islack       Islack         Hazardous Decomposition       :       CO, CO2, and NOx       Islack       Islack         Hazardous Polymerization       :       Will not occur.       Section 9. Precautions for Safe Handling and Use <td< th=""><th></th><th></th></td<>		
Evaporation Rate       : Not applicable       Viscosity       : Not applicable         Appearance       : Fine powder       Color       : Black         Odor       : Odorless       Color       : Black         Section 7. Fire and Explosion Data       Flash Point (Method Used)       : Not applicable         Ignition Temperature       : > 350°C       Flammable Limits       : (LEL); Not applicable         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         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Section 9. Reactivity Data       : None         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.		
Appearance Odor       : Fine powder Odor       : Color       : Black         Section 7. Fire and Explosion Data         Flash Point (Method Used)       : Not applicable         Ignition Temperature       : > 350°C         Flammable Limits       : (LEL): Not applicable         Ugnition Temperature       : > 350°C         Flammable Limits       : (LEL): Not applicable         Special Fire Fighting Procedure       : None         Unusual Fire and Explosion Hazard       : This material has no unusual fire or explosion hazards.         Sensitivity to Mechanical Impact       : None         Stability       : Stable         Incompatibility (Material to Avoid)       : None         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 federal, stat		
Odor       : Odorless         Section 7. Fire and Explosion Data         Flash Point (Method Used)       : Not applicable         Ignition Temperature       :> 350°C         Flammable Limits       : (LEL); 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         Section 8. Reactivity Data       : None         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO2, and NOx         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 material may be disposed under conditions which meet federal,		
Section 7. Fire and Explosion Data         Flash Point (Method Used)       : Not applicable         Ignition Temperature       : > 350°C         Flammable Limits       : (LEL); Not applicable         Extinguishing Media       : CO <sub>2</sub> , 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         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 material may be disposed under conditions which meet federal, state and local environmental regulations. <th></th> <th></th>		
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         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO2, and NOx         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 material may be disposed under conditions which meet federal, state and local environmental regulations.	Cuoi . Outriess	
Ignition Temperature       : > 350°C         Flammable Limits       : (LEL); Not applicable       (UEL); Not applicable         Extinguishing Media       : CO <sub>2</sub> , 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         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 material may be disposed under conditions which meet federal, state and local environmental regulations.		
Flammable Limits       : (LEL); Not applicable       (UEL); Not applicable         Extinguishing Media       : CO <sub>2</sub> , 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         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 federal, state and local environmental regulations.	· · · ·	
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         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO2, and NOx         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 federal, state and local environmental regulations.	0 1	: > 350 <sup>°</sup> C
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         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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.       : Not required.         Engineering Control / Ventilation       : Not required.       : 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 material may be disposed under conditions which meet federal, state and local environmental regulations.	Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Unusual Fire and Explosion Hazard       : This material has no unusual fire or explosion hazards.         Sensitivity to Mechanical Impact       : None         Sensitivity to Static Charge       : None         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 material may be disposed under conditions which meet federal, state and local environmental regulations.	Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam or water
Sensitivity to Mechanical Impact       : None         Sensitivity to Static Charge       : None         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO2, and NOx         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 federal, state and local environmental regulations.	Special Fire Fighting Procedure	: None
Sensitivity to Static Charge       : None         Section 8. Reactivity Data         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO2, and NOx         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 federal, state and local environmental regulations.	Unusual Fire and Explosion Hazard	: This material has no unusual fire or explosion hazards.
Section 8. Reactivity Data         Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 federal, state and local environmental regulations.	Sensitivity to Mechanical Impact	: None
Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 federal, state and local environmental regulations.	Sensitivity to Static Charge	: None
Stability       : Stable         Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 federal, state and local environmental regulations.	Section 8. Reactivity Data	
Incompatibility (Material to Avoid)       : None         Hazardous Decomposition       : CO, CO <sub>2</sub> , and NOx         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 federal, state and local environmental regulations.		: Stable
<ul> <li>Hazardous Decomposition : CO, CO<sub>2</sub>, and NOx</li> <li>Hazardous Polymerization : Will not occur.</li> <li>Section 9. Precautions for Safe Handling and Use</li> <li>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.</li> <li>Engineering Control / Ventilation : Not required.</li> <li>Work / Hygienic Practice : Inhalation should be minimized as with any non-toxic dust.</li> <li>Steps to be taken in case of Spill or Leak : Sweep up or clean up with vacuum cleaner.</li> <li>Waste Disposal Method : Waste and local environmental regulations.</li> </ul>		: None
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 federal, state and local environmental regulations.		: CO, CO <sub>2</sub> , and NOx
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 federal, state and local environmental regulations.		
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 federal, state and local environmental regulations.	Section 9. Precautions for Sat	fe Handling and Use
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 federal, state and local environmental regulations.		
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 federal, state and local environmental regulations.		
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 federal, state and local environmental regulations.		
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 federal, state and local environmental regulations.		
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 federal, state and local environmental regulations.		
Waste Disposal Method       : Waste material may be disposed under conditions which meet federal, state and local environmental regulations.		
federal, state and local environmental regulations.		
Section 10. Regulatory Information		
	Section 10 Regulatory Inform	ation
NFPA Rating (U.S.A.) : Health = 1 Flammability = 1 Reactivity = 0	NEPA Rating (IISA)	
WHMIS Legislation (Canada) : This product is not a controlled product.		
<b>Transport Information</b> : This product is not a hazardous material.		•
UN No. : None allocated.		

**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

# **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.

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

Section 3. Ingredients					
Ingredients	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxicity	- LDL <sub>0</sub> of this tor	ner is over 2,000mg/kg.	
	Mutagenicity The	result of Ames f	test is negative.	
Carcinogenicity	: In 1996 the IARC rea	evaluated carbor	n black as a Group 2B carcinogen (possible	Э
hur	man carcinogen). This cla	ssification is give	en to chemicals for which there is	
ina	dequate human evidence,	but sufficient an	nimal evidence on which to base an opinion of	of
car	cinogenicity. The classific	ation is based u	upon the development of lung tumors in rats	
rec	eiving chronic inhalation e	xposures to free	e carbon black at levels that induce	
par	ticle overload of the lung.	Studies perform	med in animal models other than rats did	
not	show any association be	tween carbon bla	lack and lung tumors. Moreover, a two-yea	r
car	ncer bioassay using a typic	cal toner prepara	ation containing carbon black demonstrated	no
ass	sociation between toner ex	•	•	
Chronic Effect :	-		on exposure to a typical toner, a mild to	
			ved in 92% of the rats in the high concent-	
			imal to mild degree of fibrosis was noted in	
			exposure group, but no pulmonary change wa	as
rep	orted in the lowest (1mg/r	m <sup>3</sup> ) exposure gro	oup, the most relevant level to potential	
hur	man exposures.			
Signs and Sympto	oms of Exposure :			
hur	man exposures.	,		

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. <u>Medical Conditions Generally Aggravated by Exposure</u>: 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.

	Characteristics		
BoilingMelting Point : Not applic	able	Specific Gravity	: 1.1
Vapor Pressure : Not applic	able	Solubility in Water	: Negligible
Vapor Density : Not applic	able	PH	: Not applicable
Evaporation Rate : Not applic	able	Viscosity	: Not applicable
Appearance : Fine power		Color	: Black
Odor : Odorless			
Section 7. Fire and Explosion	n Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	$: > 350^{\circ}C$		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	licable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar	n or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no unus	sual fire or explosion ha	azards.
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 NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for Sa			
Personal Protection Information (Res			
Use of a dust mask is recomme	<b>e e</b>	e quantity of toner or du	uring long
term exposure, as with any nor			
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice	: Inhalation should be mini		
Steps to be taken in case of Spill or L		n up with vacuum clear	
Waste Disposal Method	: Waste material may be		
	federal, state and loca	I environmental regula	tions.
Section 10. Regulatory Inform	nation		
NFPA Rating (U.S.A.)		ability = 1 Read	tivity = 0
WHMIS Legislation (Canada)	: This product is not a con	•	
Transport Information	: This product is not a haz		
UN No.	: None allocated.		
Section 11. Other Information			

#### 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

MSDS No. F-00691

# MATERIAL SAFETY DATA SHEET (1/2)

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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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	1				
Route(s) of Entry :	Inhalation?	<u>Skin?</u>	Ingestion?			
	Yes	No	Possible but very unusual.			
Health Hazards :	Health Hazards : Acute oral toxicity LDL <sub>0</sub> of this toner is over 5,000mg/kg.					
	Mutagenicity	The result of Ames te	st is negative.			
Carcinogenicity :	In 1996 the IAR	C reevaluated carbon	black as a Group 2B carcinogen (possible			
	• •	•	to chemicals for which there is			
	•		nal evidence on which to base an opinion of			
	• •	•	on the development of lung tumors in rats			
	•	•	arbon black at levels that induce			
		•	ed in animal models other than rats did			
	•		ck and lung tumors. Moreover, a two-year			
		•••••••••••••••••••••••••••••••••••••••	on containing carbon black demonstrated r	0		
		er exposure and tumo	•			
Chronic Effect			exposure to a typical toner, a mild to			
			d in 92% of the rats in the high concent-			
			al to mild degree of fibrosis was noted in			
22% of the animals in the middle (4mg/m <sup>3</sup> ) exposure group, but no pulmonary change was						
•	,	mg/m°) exposure grou	ip, the most relevant level to potential			
	n exposures.	••••				
Signs and Symptom	•		tion to respiratory tract may occur as with			
Medical Conditions (	ure to any non-tox		Jone			
	constany Aggrav	Liou by Exposule .				

Date Revised: April 23, 1997 Date Issued August 27, 1996

# 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 applie	able	Specific Gravity	: 1.1
Vapor Pressure : Not applie		Solubility in Water	: Negligible
Vapor Density : Not applie	able	PH	: Not applicable
Evaporation Rate : Not applie	able	Viscosity	: Not applicable
Appearance : Fine pow	der	Color	: Black
Odor : Odorless			
Section 7. Fire and Explosion	Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	cable
Extinguishing Media	: CO2, dry chemical, foam	or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no unusu	ual fire or explosion ha	azards.
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 NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for Sa	fe Handling and Use	)	
Personal Protection Information (Res			
Use of a dust mask is recomm			
term exposure, as with any no			5 5
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice	: Inhalation should be minim	ized as with any non-t	oxic dust.
Steps to be taken in case of Spill or		up with vacuum clean	
Waste Disposal Method	: Waste material may be		
•	federal, state and local		
Section 10. Regulatory Inforn	ation		
NFPA Rating (U.S.A.)	: Health = 1 Flammab	ility = 1 Reac	tivity = 1
WHMIS Legislation (Canada)	: This product is not a contr		uvity — 1
Transport Information	: This product is not a hazar		
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

MSDS No. F-0071

# MATERIAL SAFETY DATA SHEET (1/2)

# 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.

	(Name and Talankana Numbar)
(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					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	4%	3.5mg/m <sup>°</sup>	3.5mg/m	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.

Route(s) of Entry	<pre>/ : Inhalation?</pre>	<u>Skin?</u>	Ingestion?
	Yes	No	Possible but very unusual.
ealth Hazards	: Acute oral toxicity	LDL <sub>0</sub> of this tor	ner is over 10.0g/kg.
	Mutagenicity Th	ne result of Ames	test is negative.
arcinogenicity	: In 1996 the IARC	reevaluated carbo	n black as a Group 2B carcinogen (possible
hu	uman carcinogen). This o	classification is give	en to chemicals for which there is
in	adequate human evidenc	e, but sufficient an	imal evidence on which to base an opinion of
Ca	arcinogenicity. The class	ification is based u	pon the development of lung tumors in rats
re	ceiving chronic inhalation	exposures to free	carbon black at levels that induce
pa	article overload of the lun	g. Studies perforn	ned in animal models other than rats did
nc	ot show any association b	between carbon bl	ack and lung tumors. Moreover, a two-year
Ca	ancer bioassay using a ty	pical toner prepara	ation containing carbon black demonstrated no
as	sociation between toner	exposure and tum	or development in rats.
Chronic Effect	: In a study in rats c	of chronic inhalation	n exposure to a typical toner, a mild to
m	oderate degree of lung fi	brosis was observ	ed in 92% of the rats in the high concent-
ra	tion (16mg/m <sup>3</sup> ) exposure	group, and a mini	mal to mild degree of fibrosis was noted in
			kposure group, but no pulmonary change was
			oup, the most relevant level to potential
	iman exposures.	<b>C</b> , 1 - <b>D</b>	
	•	linimal irritation to	respiratory tract may occur as with exposure to
5	•	ny non-toxic dust.	, , ,
ledical Conditio	ns Generally Aggravate	•	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 Chemica	I Characteristics			
BoilingMelting Point : Not app	icable	Specific Gravity	: 1.1	
Vapor Pressure : Not app	icable	Solubility in Water	: Negligible	
Vapor Density : Not app	icable	PH	: Not applicable	
Evaporation Rate : Not app	icable	Viscosity	: Not applicable	
Appearance : Fine pov		Color	: Black	
Odor : Odorles				
Section 7. Fire and Explosic	on Data			
Flash Point (Method Used)	: Not applicable			
Ignition Temperature	: No data available			
Flammable Limits	: (LEL); Not applicable	(UEL); Not appli	cable	
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam o			
Special Fire Fighting Procedure	: None			
Unusual Fire and Explosion Hazard		al fire or explosion ha	azards.	
Sensitivity to Mechanical Impact	: No data available	•		
Sensitivity to Static Charge	: No data available			
g-				
Section 8. Reactivity Data				
Stability	: Stable			
Incompatibility (Material to Avoid)	: None			
azardous Decomposition : CO, CO <sub>2</sub> , and NOx				
Hazardous Polymerization	n : Will not occur.			
Section 9. Precautions for S				
Personal Protection Information (Re				
Use of a dust mask is recomr	nended when handling a large	quantity of toner or du	Iring long	
term exposure, as with any n	on-toxic dust.			
Engineering Control / Ventilation	: Not required.			
Work / Hygienic Practice	: Inhalation should be minim	ized as with any non-t	oxic dust.	
Steps to be taken in case of Spill or	Leak : Sweep up or clean	up with vacuum clean	er.	
Waste Disposal Method	: Waste material may be	disposed under condi	tions which meet all	
	federal, state and local	environmental regulat	ions.	
Santian 10 Pagulatany Infor	mation			
Section 10. Regulatory Infor NFPA Rating (U.S.A.)	: Health = 1 Flammab	ility – 1 Boog	tivity = 0	
	: This product is not a control		uvuy = 0	
WHMIS Legislation (Canada)	: This product is not a contro	ullea product.		
Transport Information				
Transport Information UN No.	: This product is not a hazar : 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

This MSDS replaces MSDS F-0021 (SF-77T), f-0031 (SF-76T), F-0051 (SF-80T), F-0061 (SF-720T1), and F0071 (SF-750T1) dated 7/1/96.

# 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

# Section 3. Ingredients

Ingredients Titanium dioxide	<u>CAS No.</u> 1317-80-2	Proportion 8%	<u>OSHA PEL</u> 10mg/m <sup>3</sup>	ACGIH TLV 10mg/m	<u>Other Limits</u> 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 En	try: <u>Inł</u>	nalation? Yes	<u>Skin?</u> No	Ingestion? Possible but very unusual.	
Health Hazards	<b>s</b> : ,		city: $LDL_0$ of this toner is	,	
Carcinogenicit	<b>y</b> : <u>I</u>	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.					

Date Revised: September 29, 1997 Date Issued : July 20, 1995

: 1.2

: Red

: Negligible

: Not applicable

: Not applicable

# MATERIAL SAFETY DATA SHEET (2/2)

Specific Gravity

PH

Viscosity

Color

Solubility in Water

MSDS No. F-0072

# Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable
Vapor Pressure	: Not applicable
Vapor Density	: Not applicable
Evaporation Rate	: Not applicable
Appearance	: Fine powder
Odor	: Odorless

# Section 7. Fire and Explosion Data

Flash Point (Method Used) Ignition Temperature		Not applicable No data available	
Flammable Limits	:	(LEL); Not applicable	(UEL); Not applicable
Extinguishing Media	:	CO <sub>2</sub> , dry chemical, foam or w	vater
Special Fire Fighting Procedure	:	None	
Unusual Fire and Explosion Hazard	:	This material has no unusual f	ire or explosion hazards.
Sensitivity to Mechanical Impact Sensitivity to Static Charge		No data available No data available	

# Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: CO, CO <sub>2</sub> , and NOx
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	Sharp Electronics (U.K.) Ltd.		
Kingdom	Telephone number for information: 01923-474013		

# Section 3. Ingredients

Ingredients Titanium dioxide	<u>CAS No.</u> 1317-80-2	Proportion 8%	<u>OSHA PEL</u> 10mg/m	ACGIH TLV 10mg/m	<u>Other Limits</u> 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	∕ ∶ <u>Inhalation?</u> Yes	<u>Skin?</u> No	Ingestion? Possible but very unusual.	
Health Hazards		ticity: $LDL_0$ of this toner is		
Carcinogenicity	: <u>NTP?</u> No	IARC Monographs? No	OSHA Regulated? No	
• • •	toms of Exposure	:		
M	inimal irritation to resp	piratory tract may occur a	is with exposure to any non-toxic dust.	
Medical Conditio	ns Generally Aggrav	vated by Exposure : Ac	cumulation of dust in the respiratory system	n.
Emergency and I	First Aid Procedures	<b>i</b>		
_			ur, consult medical personnel. sh eyes with water for 15 minutes.	

Date Revised: September 29, 1997 Date Issued : July 20, 1995

: 1.2

:

: Negligible : Not applicable

: Not applicable Blue

# **MATERIAL SAFETY DATA SHEET (2/2)**

#### MSDS No. F-0073

# Section 6. Physical Chemical Characteristics

# Section 7. Fire and Explosion Data

Flash Point (Method Used) Ignition Temperature		Not applicable No data available	
Flammable Limits		(LEL); Not applicable	(UEL); Not applicable
Extinguishing Media	:	CO <sub>2</sub> , dry chemical, foam or w	vater
Special Fire Fighting Procedure	:	None	
Unusual Fire and Explosion Hazard	:	This material has no unusual f	ire or explosion hazards.
Sensitivity to Mechanical Impact Sensitivity to Static Charge	-	No data available No data available	

#### Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: CO, CO <sub>2</sub> , and NOx
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.

Date Revised: November 15, 1999 Date Issued : June 1, 1997

#### MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-00731

Limits

						<u>MSDS No. F-00</u>
Section 1. Product Id	<u>entificati</u>	on				
Product :						
SF-234MT/SF-234CT/SF-2	35LT (Blac	k Toner)				
Section 2. Supplier's	Name a	nd Addre	ess			
Sharp Corporation						
22-22 Nagaike-cho, Abeno-k	u, Osaka, J	apan				
Local suppliers are listed bel		•	e nearest supplie	r for additional in	formation.	
	Country)			d Telephone Nu		
	U.S.A.	Sharp E	Electronics Corpo	•	,	
		•	one number for in		-237-4277	
		•	ncy telephone nu			
	Canada	•	Electronics of Car			
	Canada	•	one number for in		90-2100	
		•	ncy telephone nu			
	United	-	Electronics (U.K.)		00-0024	
		•	, ,		474012	
	Kingdom	relepho	one number for in	10111alion. 01923	-474013	
Section 3. Ingredients	;					
Ingredients		CAS No.	<b>Proportion</b>	OSHA PEL	ACGIH TLV	Other Lim
Carbon black		1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	None
Polypropylene		9003-53-6	> 90%	Not listed	Not listed	None
Styrene-butylacrylate	2	9497-14-1	(total for both)	Not listed	Not listed	None

Section 4. Hazardous Ide	entification (Er	mergency	Overview)		
Polypropylene	9003-07-0	< 1%	Not listed	Not listed	None
Organic ammonium salt	102561-46-6	< 2%	Not listed	Not listed	None
Styrene-butylacrylate -butylmethaacrylate copolymer	29497-14-1	(total for both)	Not listed	Not listed	None

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.

ction 5. Health Hazard Data ute(s) of Entry : Inhalation? Skin? Ingestion?	
Yes No Possible but very unusual.	
<b>alth Hazards</b> : Acute oral toxicity LDL <sub>0</sub> of this toner is over 2,000mg/kg.	
Mutagenicity The result of Ames test is negative.	
cinogenicity : In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possib	le
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	n of
carcinogenicity. The classification is based upon the development of lung tumors in rate	
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-yea	ar
cancer bioassay using a typical toner preparation containing carbon black demonstrate	ed no
association between toner exposure and tumor development in rats.	
ronic 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 concent-	
ration (16mg/m <sup>3</sup> ) exposure group, and a minimal to mild degree of fibrosis was noted ir	
22% of the animals in the middle (4mg/m <sup>3</sup> ) exposure group, but no pulmonary change w	was
reported in the lowest (1mg/m <sup>3</sup> ) exposure group, the most relevant level to potential	
human exposures.	
ns and Symptoms of Exposure :	
Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust.	

Date Revised: November 15, 1999 Date Issued : June 1, 1997

# 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 BoilingMelting Point : Not applie		Specific Gravity	: 1.1
Vapor Pressure : Not applic		Solubility in Water	: Negligible
Vapor Density : Not applic		PH	: Not applicable
Evaporation Rate : Not applie		Viscosity	: Not applicable
Appearance : Fine power		Color	: Black
Odor : Odorless			. Didok
Section 7. Fire and Explosion			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	$: > 350^{\circ}C$		
Flammable Limits	: (LEL); Not applicable	(UEL); Not app	licable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, fo	am or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no u	nusual fire or explosion ha	azards.
Sensitivity to Mechanical Impact	: None		
Sensitivity to Static Charge	: None		
Section 8. Reactivity Data	0.11		
Stability	: Stable		
Incompatibility (Material to Avoid)	: None		
Hazardous Decomposition	: CO and NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for Sa			
Personal Protection Information (Res			
Use of a dust mask is recomm		rge quantity of toner or d	uring long
term exposure, as with any nor			
Engineering Control / Ventilation			terde durat
Work / Hygienic Practice		inimized as with any non-	
Steps to be taken in case of Spill or			
Waste Disposal Method		be disposed under cond	
		ocal environmental regula	MONS.
Section 10. Regulatory Inform			
NFPA Rating (U.S.A.)			ctivity = 0
WHMIS Legislation (Canada)	: This product is not a c	•	
Transport Information	: This product is not a h	azardous material.	
UN No.	: None allocated.		
Section 11. Other Information			
•	, .		cinogenic Risk of Chemica
Humans, Vol. 65, Printing Process an	d Printing inke (`arhon Rl	ack and Some Nitro Com	nounde livon

Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261 H. Muble, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie

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	Sharp Electronics (U.K.) Ltd.		
Kingdom	Telephone number for information: 01923-474013		

#### Section 3. Ingredients **Other Limits** Ingredients CAS No. Proportion **OSHA PEL** ACGIH TLV 10mg/m៓ 10mg/m̃ Titanium dioxide 1317-80-2 8.0% None Carbon black 1333-86-4 0.5% 3.5mg/m 3.5mg/m None Styrene-Acrylate copolymer 25767-47-9 84.0% Not listed Not listed None Organic pigment 3.5% Not listed Not listed None 6992-11-6 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. Heal	Ith Hazard Data			
Route(s) of Entry	: Inhalation?	<u>Skin?</u>	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxicity	LDL <sub>0</sub> of this tone	er is over 10.0g/kg.	
	Mutagenicity The second se	he result of Ames te	est is negative.	
Carcinogenicity :	In 1996 the IARC	reevaluated carbon	black as a Group 2B carcinogen (possible	
hun	nan carcinogen). This o	classification is give	n to chemicals for which there is	
inac	Jequate human evidenc	e, but sufficient anir	nal evidence on which to base an opinion of	
care	cinogenicity. The class	ification is based up	on the development of lung tumors in rats	
rece	eiving chronic inhalatior	n exposures to free	carbon black at levels that induce	
par	ticle overload of the lun	g. Studies perform	ed in animal models other than rats did	
not	show any association b	between carbon bla	ck and lung tumors. Moreover, a two-year	
can	icer bioassay using a ty	pical toner preparat	ion containing carbon black demonstrated no	
ass	ociation between toner	exposure and tumo	r development in rats.	
Chronic Effect :	In a study in rats o	of chronic inhalation	exposure to a typical toner, a mild to	
			d in 92% of the rats in the high concent-	
ratio	on (16mg/m <sup>3</sup> ) exposure	group, and a minin	nal to mild degree of fibrosis was noted in	
22%	6 of the animals in the r	middle (4mg/m <sup>3</sup> ) exp	posure group, but no pulmonary change was	
rep	orted in the lowest (1m	g/m <sup>3</sup> ) exposure gro	up, the most relevant level to potential	
hun	nan exposures.			
Signs and Sympto	ms of Exposure	:		
Min	imal irritation to respira	tory tract may occu	r as with exposure to any non-toxic dust.	

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. <u>Medical Conditions Generally Aggravated by Exposure : None</u>

# **MATERIAL SAFETY DATA SHEET (2/2)**

MSDS No. F-0074

# Section 5. Health Hazard Data (Continued)

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#### Emergency and First Aid Procedures :

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

.

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

	Characteristics				
BoilingMelting Point : Not applie		ic Gravity : 1.2			
Vapor Pressure : Not applie	able Solubi	lity in Water : Negligible			
Vapor Density : Not applie	able PH	: Not applicable			
Evaporation Rate : Not applie	able Viscos	sity : Not applicable			
Appearance : Fine pow	ler Color	: Brown			
Odor : Odorless					
Section 7. Fire and Explosion	Data				
Flash Point (Method Used)	: Not applicable				
Ignition Temperature	$: > 350^{\circ}C$				
Flammable Limits	: (LEL); Not applicable (I	UEL); Not applicable			
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam or wate	er			
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 <sub>2</sub> , and NOx				
Hazardous Polymerization	: Will not occur.				
Section 9. Precautions for Sa					
<b>Personal Protection Information (Res</b>					
Use of a dust mask is recomm	ended when handling a large quantit	y of toner or during long			
term exposure, as with any no	-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	.eak : Sweep up or clean up with	vacuum cleaner.			
Waste Disposal Method	: Waste material may be dispos	ed under conditions which meet all			
	federal, state and local enviror	nmental regulations.			
Section 10. Regulatory Inforn	ation				
NFPA Rating (U.S.A.)	: Health = 1 Flammability = 1	1 Reactivity = 0			
WHMIS Legislation (Canada)	: This product is not a controlled p	•			
Transport Information	: This product is not a hazardous r				
UN No.	: None allocated.				
Section 11. Other Information					
		tion of the Operation manife Bigle of Ob 1			

#### IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to References : 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

This MSDS replaces MSDS F-0054 (SF-80T4), F-0064 (SF-720T4) and MSDS F-0074(SF-750T4) issued 7/1/96.

# MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-00781

					IVI	SDS No. F-0078
Section 1. Product Identifi	cation					
Product :						
SD-226NT/SF-226T/SF-2265						
Section 2. Supplier's Name	<u>e and Addr</u>	ress				
Sharp Corporation						
22-22 Nagaike-cho, Abeno-ku						
Local suppliers are listed belo	ow. Please c	contact the	e nearest supp	olier for additional ir	formation.	
(C	ountry)			and Telephone N	umber)	
l	J.S.A.	Sharp E	Electronics Co	rporation		
		Telepho	one number fo	r information: 1-800	)-237-4277	
		Emerge	ncy telephone	number: 1-800-2	55-3924	
(	Canada	Sharp E	Electronics of	Canada Ltd.		
		Telepho	one number fo	r information: 905-8	390-2100	
				number : 1-800-2		
ι	Jnited		Electronics (U.			
ł	Kingdom			r information: 01923	3-474013	
	0.1					
Section 3. Ingredients						
Ingredients	C	CAS No.	Proportion	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black		333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	None
				-	-	
Polystyrene AND	90	003-53-6		Not listed	Not listed	None
Styrene-butylacrylate-butyl-			> 85 %			
methaacrylate copolymer	294	197-14-1	(for mixture)	Not listed	Not listed	None
			()			
Organic ammonium salt	1025	561-46-6	< 2%	Not listed	Not listed	None
Polypropylene		003-07-0	< 2%	Not listed	Not listed	None
			270	i tot notou	i tot notou	Nono
Section 4. Hazardous Iden	tification (F	mergen	cv Overview	)		
Toner is a fine, black powder					ated carcinogenic	
effects from exposure based						
to instructions, studies do no						9
Section 5. Health Hazard		<u>y oymptoi</u>				
Route(s) of Entry : Inhalat		SI	kin?	Ingestion	2	
Ye		N N		Possible but very u		
Health Hazards : Acute Ora			-		inusual.	
			sults are neg			
Carcinogenicity : In 1996 the	•		-		agan (nassihla	
0,				•	0 (1	
				chemicals for which		-4
				evidence on which		
				the development of		S
		•		on black at levels t		
				n animal models ot		
				and lung tumors. M		
				containing carbon I	black demonstrate	d no
		•		evelopment in rats.		
Chronic Effect : In a study i						
				e rats in the high co		
				fibrosis was noted i		als
in the middle	(4mg/m <sup>3</sup> ) exp	posure gro	oup, but no pu	Imonary change wa	as reported in the	
				nt level to potential		
Signs and Symptoms of Ex					·	
		atory tract	may occur as	with exposure to a	ny non-toxic dust.	
Medical Conditions Genera	•	•	•	•	,	

Date Revised: August 7, 1998 Date Issued : Oct. 1, 1997

# MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-00781

			MSDS No. F-00781	
Section 5. Health Hazard Data (Co				
Emergency and First Aid Procedure	es :			
Inhalation Remove	to fresh air. If effects occu	ur, consult medical person	nel.	
Eye In case	of contact, immediately flu	sh eyes with water for 15	minutes.	
	-	-		
Section 6. Physical Chemical Cha	racteristics			
BoilingMelting Point : Not app		Specific Gravity	: 1.1	
Vapor Pressure : Not app		Solubility in Water	: Negligible	
Vapor Density : Not app		PH	: Not applicable	
<b>Evaporation Rate</b> : Not app		Viscosity	: Not applicable	
Appearance : Fine pov		Color	: Black	
Odor : Odorles		00101	. Diack	
Odol . Odolles	5			
Section 7 Fire and Explanion Do	to			
Section 7. Fire and Explosion Da				
Flash Point (Method Used)	: Not applicable			
Ignition Temperature	$: > 350^{\circ}C$			
Flammable Limits	: (LEL); Not known	(UEL); Not knov	/n	
Extinguishing Media	: CO <sub>2</sub> , dry chemical, fo	oam or water		
Special Fire Fighting Procedure	: None			
Unusual Fire and Explosion Hazard	: This material has no u	inusual fire or explosion ha	izards.	
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 NOx)			
Hazardous Polymerization	: Will not occur.			
Section 9. Precautions for Safe H	landling and Use			
Personal Protection Information (Re		n and Protective Glove)		
Use of a dust mask is recom				
term exposure, as with any n		igo quantity of tonor of ac		
Engineering Control / Ventilation	: Not required.			
	•	vinimized on with any non t	ovia duat	
Work / Hygienic Practice		ninimized as with any non-t		
Steps to be taken in case of Spill of		ean up with vacuum clean		
Waste Disposal Method	-	y be disposed under cond		
	rederal, state and i	ocal environmental regulat	IONS.	
Castion 40 Descriptions Information	-			
Section 10. Regulatory Information		Dece		
NFPA Rating (U.S.A.)		5	tivity = 0	
WHMIS Legislation (Canada)	: This product is not a c			
Transport Information		: This product is not a hazardous material.		
UN No.	: None allocated.			
Section 11. Other Information				
	, .		cinogenic Risk of Chemicals to	
Humans, Vol. 65, Printing Process a	nd Printing inks, Carbon Bl	lack and Some Nitro Comp	bounds, Lyon,	
pp-149-261				
H. Muhle, B. Bellmann, O. Creutzen	berg, C. Dasenbrock, H. E	rnst, R. Kilpper, J. C. Mac	Kenzie,	

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)

# Section 1. Product Identification

MSDS No. F-0081

#### 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.

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

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits
Carbon black	1333-86-4	6.0%	3.5mg/m្វ័	3.5mg/m៓	None
Iron oxide	1317-61-9	1.0%	5.0mg/m <sup>3</sup>	10.0mg/m <sup>°</sup>	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. Healt	h Hazard Data		
Route(s) of Entry :		Skin?	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards :			ner is over 5000mg./kg.
	Mutagenicity	The result of Ames	test is negative.
inade carci recei partio not s canc	an carcinogen). This equate human evider nogenicity. The clas ving chronic inhalation cle overload of the lut how any association er bioassay using a	s classification is give nce, but sufficient an sification is based u on exposures to free ing. Studies perform a between carbon bla typical toner prepara	n black as a Group 2B carcinogen (possible en to chemicals for which there is imal evidence on which to base an opinion of pon the development of lung tumors in rats a carbon black at levels that induce ned in animal models other than rats did ack and lung tumors. Moreover, a two-year ation containing carbon black demonstrated no nor development in rats.
Chronic Effect : mode ratior 22% repor huma	In a study in rats erate degree of lung n (16mg/m <sup>3</sup> ) exposu of the animals in the rted in the lowest (1 an exposures.	of chronic inhalation fibrosis was observ- re group, and a mini e middle (4mg/m <sup>3</sup> ) ex mg/m <sup>3</sup> ) exposure gro	n exposure to a typical toner, a mild to ed in 92% of the rats in the high concent- imal to mild degree of fibrosis was noted in xposure group, but no pulmonary change was oup, the most relevant level to potential
Signs and Sympton	-	Minimal irritation to any non-toxic dust.	respiratory tract may occur as with exposure to

# **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. of contact immediately fluch avec

⊏уе	In case of contact, immediately hush eyes with water for 15 minutes.

	Characteristics	Creatific Creatify	
BoilingMelting Point : Not applie		Specific Gravity	: 1.19
Vapor Pressure : Not applie		Solubility in Water	: Negligible
Vapor Density : Not applie		PH	: Not applicable
Evaporation Rate : Not applie		Viscosity	: Not applicable
Appearance : Fine pow		Color	: Black
Odor : Odorless			
Section 7. Fire and Explosion	n Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	$: > 350^{\circ}C$		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	icable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam	or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no unus	ual fire or explosion ha	azards.
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 <sub>2</sub> , and NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for Sa	fo Handling and Ha	<u> </u>	
Personal Protection Information (Res Use of a dust mask is recomm			
		quantity of toner of du	
term exposure, as with any not			
Engineering Control / Ventilation	: Not required.	den al constitue construction d	
Work / Hygienic Practice	: Inhalation should be minim		
Steps to be taken in case of Spill or		up with vacuum clean	
Waste Disposal Method	: Waste material may be		
	federal, state and local	environmental regulat	lions.
Section 10. Regulatory Inform	nation		
NFPA Rating (U.S.A.)	: Health = 1 Flammal	bility – 1 Booo	tivity = 0
			uvity = 0
WHMIS Legislation (Canada)	: This product is not a contra		
Transport Information	: This product is not a haza	iruous 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

#### Date Revised: September 29, 1997 Date Issued : July 20, 1995

# 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

#### Section 3. Ingredients

Ingredients	CAS No.	<b>Proportion</b>	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	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	: <u>Inhalation?</u> Yes	<u>Skin?</u> No	Ingestion? Possible but very unusual.					
Health Hazards		exicity: $LDL_0$ of this toner is	•					
Carcinogenicity		IARC Monographs?	OSHA Regulated?					
0	No	No	No					
Signs and Sympton	-	:						
Mir	nimal irritation to re	spiratory tract may occur a	as with exposure to any non-toxic dust.					
Medical Condition	ns Generally Aggr	avated by Exposure : Ac	cumulation of dust in the respiratory system.					
Emergency and F	irst Aid Procedure	es :						
• •	Inhalation Remove to fresh air. If effects occur, consult medical personnel.							
Ey			ish eyes with water for 15 minutes.					

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 applicableVapor Pressure:Not applicableVapor Density:Not applicableEvaporation Rate:Not applicableAppearance:Fine powderOdor:Odorless	Specific Gravity:1.1Solubility in Water:NegligiblePH:Not applicableViscosity:Not applicableColor:Red
--	--

# Section 7. Fire and Explosion Data

Ignition TemperatureFlammable LimitsExtinguishing MediaSpecial Fire Fighting ProcedureUnusual Fire and Explosion HazardSensitivity to Mechanical Impact	Not applicable No data available (LEL); 31 g/m <sup>3</sup> (UEL); Not applicable CO <sub>2</sub> , dry chemical, foam or water None This material has no unusual fire or explosion hazards. No data available No data available
---	---

# Section 8. Reactivity Data

Stability Incompatibility (Material to Avoid)	: Stable : Strong acids and alkalines
Hazardous Decomposition	: CO, CO <sub>2</sub> , and NOx. Also will produce phenol derivatives when heated above 300 <sup>o</sup> 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 of	r 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	Sharp Electronics (U.K.) Ltd.		
Kingdom	Telephone number for information: 01923-474013		

### Section 3. Ingredients

Ingredients	CAS No.	<b>Proportion</b>	OSHA PEL	ACGIH TLV	Other Limits
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 En	t <b>ry</b> : <u>II</u>	nhalation? Yes	<u>Skin?</u> No	Ingestion? Possible but very unusual.	
Health Hazards	:	Acute Oral Toxi	city: $LDL_0$ of this toner is	over 5 g/kg	
Carcinogenicity	/:	NTP?	IARC Monographs?	OSHA Regulated?	
		No	No	No	
Signs and Sym	ptoms	of Exposure	:		
	Minima	I irritation to resp	iratory tract may occur as	with exposure to any non-toxic dust.	
<b>Medical Condit</b>	ions G	enerally Aggrav	ated by Exposure : Acc	umulation of dust in the respiratory system	า.
Emergency and	l First	Aid Procedures	:		
	Inhalati	on Remove to	fresh air. If effects occu	r, consult medical personnel.	
	Eye	In case of	contact, immediately flue	sh eyes with water for 15 minutes.	

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 Vapor Pressure Vapor Density Evaporation Rate Appearance Odor	<ul> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Fine powder</li> <li>Odorless</li> </ul>	Specific Gravity Solubility in Water PH Viscosity Color	<ol> <li>1.1</li> <li>Negligible</li> <li>Not applicable</li> <li>Not applicable</li> <li>Blue</li> </ol>
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## Section 7. Fire and Explosion Data

Flash Point (Method Used) Ignition Temperature Flammable Limits Extinguishing Media Special Fire Fighting Procedure Unusual Fire and Explosion Hazard Sensitivity to Mechanical Impact Sensitivity to Static Charge	<ul> <li>Not applicable</li> <li>No data available</li> <li>(LEL); 31 g/m<sup>3</sup> (UEL); Not applicable</li> <li>CO<sub>2</sub>, dry chemical, foam or water</li> <li>None</li> <li>This material has no unusual fire or explosion hazards.</li> <li>No data available</li> <li>No data available</li> </ul>
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 <sub>2</sub> , and NOx. Also will produce phenol derivatives when heated above 300 <sup>0</sup> 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-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	Sharp Electronics (U.K.) Ltd.		
Kingdom	Telephone number for information: 01923-474013		

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	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] naptholate-chromate,hydrog	31714-55-3 gen	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 Ent	<b>ry</b> :	Inhalation? Yes	<u>Skin?</u> No	Ingestion? Possible but very unusual.
Health Hazards	:		exicity: $LDL_0$ of this toner is	5
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.

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 Vapor Pressure Vapor Density Evaporation Rate Appearance	<ul> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Fine powder</li> <li>Odorloss</li> </ul>	Specific Gravity Solubility in Water PH Viscosity Color	<ul> <li>1.1</li> <li>Negligible</li> <li>Not applicable</li> <li>Not applicable</li> <li>Brown</li> </ul>
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 <sup>°</sup> (UEL); Not applicable
Extinguishing Media	: CO <sub>2</sub> , 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 Incompatibility (Material to Avoid) Hazardous Decomposition	<ul> <li>Stable</li> <li>Strong acids and alkalines</li> <li>CO, CO<sub>2</sub>, and NOx. Also will produce phenol derivatives when heated above 300<sup>o</sup>C</li> </ul>
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 ne	on-toxic dust.
<b>Engineering Control / Ventilation</b>	: Not required.
Work / Hygienic Practice	: Inhalation should be minimized as with any non-toxic dust.
Steps to be taken in case of Spill or	r 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 : June 10, 1994

## 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

### Section 3. Ingredients

Ingredients	CAS No.	<b>Proportion</b>	OSHA PEL	ACGIH TLV	Other Limits
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 : I	Inhalation? Yes	<u>Skin?</u> No	Ingestion? Possible but very unusual.	
Health Hazards :	No data availabl	le		
Carcinogenicity :	NTP?	IARC Monographs?	OSHA Regulated?	
	No	No	No	
Signs and Symptoms	of Exposure	:		
Eyes:	May cause cornea	al injury due to mechanic	cal action.	
	essentailly nonirritation: Minimal irritat	0	ay occur as with exposure to any nor	1-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.

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

Vapor Pressure	<ul> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Fine powder</li> <li>Odorless</li> </ul>	Specific Gravity Solubility in Water PH Viscosity Color	<ol> <li>1.14</li> <li>Negligible</li> <li>Not applicable</li> <li>Not applicable</li> <li>Red</li> </ol>
Section 7. Fire and	Explosion Data		
Flash Point (Method Used Ignition Temperature Flammable Limits	d) : No data available : No data available : (LEL): Not applicable	(LIEL): Not appl	icable

Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: CO <sub>2</sub> , 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

•	espiratory, Eye Protection and Protective Glove): mended when handling a large quantity of toner or during long ion-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 o	r 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 Infor	mation

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

#### Date Revised: September 29, 1997 Date Issued : June 10, 1994

## 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

#### Section 3. Ingredients

Ingredients	CAS No.	<b>Proportion</b>	OSHA PEL	ACGIH TLV	Other Limits
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	<pre>/ : Inhalation?</pre>	Skin?	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards	: No data availa	ble	
Carcinogenicity	: NTP?	IARC Monographs?	OSHA Regulated?
Carcinogenicity			
	No	No	No
Signs and Sympt	toms of Exposure	:	
Ey	/es: May cause corne	eal injury due to mechani	cal action.
S	kin: essentailly nonirri	tating to the skin.	
la.	halatian. Minimal irrit	ation to readiratory tract n	any anour on with averaging to any non-

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.

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 Vapor Pressure Vapor Density Evaporation Rate Appearance	<ul> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Fine powder</li> </ul>	Specific Gravity Solubility in Water PH Viscosity Color	<ol> <li>1.14</li> <li>Negligible</li> <li>Not applicable</li> <li>Not applicable</li> <li>Blue</li> </ol>
Odor Section 7. Fire an	: Odorless		
Flash Point (Method U	•		

Ignition Temperature	: No data available		
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable		
Extinguishing Media	: CO <sub>2</sub> , 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 Work / Hygienic Practice Steps to be taken in case of Spill of Waste Disposal Method	: Not required. : Inhalation should be minimized as with any non-toxic dust.			
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 UN No.	<ul><li>This product is not a hazardous material.</li><li>None allocated.</li></ul>

#### 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	Sharp Electronics (U.K.) Ltd.	
Kingdom	Telephone number for information: 01923-474013	

#### Section 3. Ingredients

Ingredients	CAS No.	<b>Proportion</b>	OSHA PEL	ACGIH TLV	Other Limits
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 : I	Inhalation? Yes	<u>Skin?</u> No	Ingestion? Possible but very unusual.		
Health Hazards :	No data available	e	,		
Carcinogenicity :	NTP?	IARC Monographs?	OSHA Regulated?		
	No	No	No		
Signs and Symptoms of Exposure					
Eyes: May cause corneal injury due to mechanical action.					
Skin: essentailly 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.

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 Vapor Pressure Vapor Density Evaporation Rate Appearance Odor	<ul> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Not applicable</li> <li>Fine powder</li> <li>Odorless</li> </ul>	Specific Gravity Solubility in Water PH Viscosity Color	<ul> <li>1.14</li> <li>Negligible</li> <li>Not applicable</li> <li>Not applicable</li> <li>Sepia</li> </ul>
Section 7. Fire an Flash Point (Method U	d Explosion Data		

Ignition Temperature	: No data available
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: CO <sub>2</sub> , 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

	espiratory, Eye Protection and Protective Glove): nended when handling a large quantity of toner or during long on-toxic dust.
<b>Engineering Control / Ventilation</b>	: Not required.
Work / Hygienic Practice	: Inhalation should be minimized as with any non-toxic dust.
Steps to be taken in case of Spill of	<b>Leak</b> : 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 Infor	mation

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

## MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. F-0101-3

				INS	SDS No. F-0101-3
Section 1. Product Identificatio	n				
Product :					
SF-810NT1/SF-810ST1 (Black T	oner)				
Section 2. Supplier's Name and	d Address				
Sharp Corporation					
22-22 Nagaike-cho, Abeno-ku, Os	aka, Japan				
Local suppliers are listed below. F	Please contact the	nearest supplie	r for additional in	formation.	
(Countr	у)	(Name an	d Telephone Nu	umber)	
U.S.A	. Sharp E	lectronics Corpo	ration		
	Telepho	ne number for in	formation: 1-800	-237-4277	
	Emerge	ncy telephone nu	umber : 1-800-2	55-3924	
Canad	da Sharp E	lectronics of Car	nada Ltd.		
	Telepho	ne number for in	formation: 905-8	90-2100	
	Emerge	ncy telephone nu	umber : 1-800-25	55-3924	
United	I Sharp E	lectronics (U.K.)	Ltd.		
Kingdo	om Telepho	ne number for in	formation: 01923	-474013	
Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	5-7%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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 Identifica	ation (Emergend	y Overview)			
Toner is a fine, black powder poss	essing no immedi	ate hazard. The	re are no anticipa	ated carcinogenic	
effects from exposure based on ar	nimal tests perform	ned using toner.	When used as in	ntended according	9
to instructions, studies do not indic	ate any symptom	s of fibrosis will a	occur.		

azard Data			
Inhalation?	<u>Skin?</u>	Ingestion?	
Yes	No	Possible but very unusual.	
Acute oral toxicity	LDL <sub>0</sub> of this tone	er is over 5,000mg/kg.	
Mutagenicity TI	he result of Ames te	est is negative.	
In 1996 the IARC	reevaluated carbon	black as a Group 2B carcinogen (possible	
n carcinogen). This o	classification is giver	n to chemicals for which there is	
quate human evidenc	e, but sufficient anir	nal evidence on which to base an opinion of	
ogenicity. The class	ification is based up	on the development of lung tumors in rats	
ing chronic inhalatior	n exposures to free	carbon black at levels that induce	
e overload of the lun	g. Studies performe	ed in animal models other than rats did	
low any association b	between carbon bla	ck and lung tumors. Moreover, a two-year	
		-	
	•	•	
•			
ed in the lowest (1m	g/m <sup>3</sup> ) exposure grou	up, the most relevant level to potential	
n exposures.			
•	:		
al irritation to respira	tory tract may occu	r as with exposure to any non-toxic dust.	
	Acute oral toxicity Mutagenicity T In 1996 the IARC n carcinogen). This of ogenicity. The class ring chronic inhalation is overload of the lun ow any association l ow any association l or bioassay using a ty iation between toner In a study in rats of rate degree of lung f (16mg/m <sup>3</sup> ) exposure of the animals in the n and the lowest (1m n exposures. s of Exposure	Inhalation? Yes       Skin? No         Acute oral toxicity LDL <sub>0</sub> of this tone Mutagenicity The result of Ames te In 1996 the IARC reevaluated carbon in carcinogen). This classification is given quate human evidence, but sufficient anir ogenicity. The classification is based up ing chronic inhalation exposures to free of the overload of the lung. Studies performed now any association between carbon black of bioassay using a typical toner preparate iation between toner exposure and tumo In a study in rats of chronic inhalation rate degree of lung fibrosis was observe (16mg/m <sup>3</sup> ) exposure group, and a minin of the animals in the middle (4mg/m <sup>3</sup> ) exp red in the lowest (1mg/m <sup>3</sup> ) exposure group n exposures.	Inhalation? YesSkin? NoIngestion?YesNoPossible but very unusual.Acute oral toxicity LDL <sub>0</sub> of this toner is over 5,000mg/kg. Mutagenicity The result of Ames test is negative. In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible n carcinogen). This classification is given to chemicals for which there is quate human evidence, but sufficient animal evidence on which to base an opinion of ogenicity. The classification is based upon the development of lung tumors in rats ring chronic inhalation exposures to free carbon black at levels that induce e overload of the lung. Studies performed in animal models other than rats did now any association between carbon black and lung tumors. Moreover, a two-year er bioassay using a typical toner preparation containing carbon black demonstrated no iation between toner exposure and tumor development in rats. In a study in rats of chronic inhalation exposure to a typical toner, a mild to rate degree of lung fibrosis was observed in 92% of the rats in the high concent- (16mg/m <sup>3</sup> ) exposure group, and a minimal to mild degree of fibrosis was noted in of the animals in the middle (4mg/m <sup>3</sup> ) exposure group, but no pulmonary change was ted in the lowest (1mg/m <sup>3</sup> ) exposure group, the most relevant level to potential n exposures.

Medical Conditions Generally Aggravated by Exposure : None

## Date Revised: September 29, 1997 Date Issued :July 20, 1995

## MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0101-3

			MSDS No. F-0101-3
Section 5. Health Hazard Da	ata (Continued)		
Emergency and First Aid Pro			
		ts occur, consult medical persor	nnel.
		tely flush eyes with water for 15	
_,			
Section 6. Physical Chemica	al Characteristics		
-	lot applicable	Specific Gravity	: 1.1
	lot applicable	Solubility in Water	: Negligible
•	lot applicable	PH	: Not applicable
	lot applicable	Viscosity	: Not applicable
	ine powder	Color	: Black
••	)dorless	000	. Diack
	uoness		
Section 7. Fire and Explosion	n Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	$: > 350^{\circ}C$		
Flammable Limits		icable (UEL); Not appl	icable
Extinguishing Media		ical, foam or water	icable
Special Fire Fighting Procedu		ical, Ioani of water	
Unusual Fire and Explosion F		as no unusual fire or explosion ha	azordo
•		is no unusual life of explosion ha	azarus.
Sensitivity to Mechanical Imp			
Sensitivity to Static Charge	: None		
Section 8. Reactivity Data			
	: Stable		
Stability			
Incompatibility (Material to Av			
Hazardous Decomposition	: CO and NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for S	afe Handling and Use		
		tection and Protective Glove)	
		ng a large quantity of toner or du	
term exposure, as with		ing a large quantity of toner of ut	
Engineering Control / Ventilat			
Work / Hygienic Practice		d be minimized as with any non-	toxic duct
-		p or clean up with vacuum clear	
Waste Disposal Method		ial may be disposed under cond and local environmental regula	
	ieuerai, state	and local environmental regula	uona.
Section 10. Regulatory Infor	mation		
NFPA Rating (U.S.A.)	: Health = 1	Flammability = 1 Read	tivity = 0
WHMIS Legislation (Canada)		not a controlled product.	aivity = 0
Transport Information	•	not a hazardous material.	
UN No.	: None allocated.		
UN NO.	. None allocated.		
Section 11. Other Information	n		
		ohs on the Evaluation of the Car	cinogenic Risk of Chomicals to
	· · · · · · · · · · · · · · · · · · ·		
-	cess and Finding inks, Car	bon Black and Some Nitro Com	pounds, Lyon,
pp-149-261			
		k, H. Ernst, R. Kilpper, J. C. Mac	
	,	1991) Pulmonary Response to	i oner upon Chronic
Inhalation Exposure in Rats.	Fundamental and Applied	i oxicology 17, pp. 280-299	

## **MATERIAL SAFETY DATA SHEET (1/2)**

## Section 1. Product Identification

MSDS No. F-0121-1

#### 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	Sharp Electronics (U.K.) Ltd.		
Kingdom	Telephone number for information: 01923-474013		

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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. H	lealt	h Hazard Data			
Route(s) of Er	ntry :	Inhalation?	Skin?	Ingestion?	
		Yes	No	Possible but very unusual.	
Health Hazard	ls :	Acute oral toxicity	y LDL <sub>0</sub> of this ton	er is over 2,000mg/kg.	
		Mutagenicity	The result of Ames to	est is negative.	
Carcinogenici				black as a Group 2B carcinogen (possible	
	huma	an carcinogen). This	classification is give	n to chemicals for which there is	
	inade	equate human evider	nce, but sufficient ani	mal evidence on which to base an opinion of	
		•	-	oon the development of lung tumors in rats	
		•	•	carbon black at levels that induce	
	•		•	ed in animal models other than rats did	
		•		ck and lung tumors. Moreover, a two-year	
				tion containing carbon black demonstrated no	
			•	or development in rats.	
Chronic Effec				exposure to a typical toner, a mild to	
		<b>U</b>		d in 92% of the rats in the high concent-	
				nal to mild degree of fibrosis was noted in	
				posure group, but no pulmonary change was	
			ng/m³) exposure gro	up, the most relevant level to potential	
		an exposures.			
Signs and Syr		ns of Exposure		ation to respiratory tract may occur as with	
	•	sure to any non-toxic			
Modical Condi	itione	Conorally Aggrava	tod by Exposuro ·	Nepe	

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 Chemica	Characteristics				
BoilingMelting Point : Not appl	cable	Specific Gravity	: 1.1		
Vapor Pressure : Not appl	cable	Solubility in Water	: Negligible		
Vapor Density : Not appl	cable	PH	: Not applicable		
Evaporation Rate : Not appl	cable	Viscosity	: Not applicable		
Appearance : Fine pov	/der	Color	: Black		
Odor : Odorless	6				
Section 7. Fire and Explosio					
Flash Point (Method Used)	: Not applicable				
Ignition Temperature	: > 350°C				
Flammable Limits	: (LEL); Not applicable	(UEL); Not app	licable		
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar	n or water			
Special Fire Fighting Procedure	: None				
Unusual Fire and Explosion Hazard	: This material has no unu	isual fire or explosion ha	azards.		
Sensitivity to Mechanical Impact	: None				
Sensitivity to Static Charge	: None				
Section 8. Reactivity Data					
Stability	: Stable				
Incompatibility (Material to Avoid)	: None				
azardous Decomposition : CO and NOx					
Hazardous Polymerization : Will not occur.					
Section 9. Precautions for S	afe Handling and Lle	20			
Personal Protection Information (Re			:		
Use of a dust mask is recomn					
term exposure, as with any no			5 5		
Engineering Control / Ventilation	: Not required.				
Work / Hygienic Practice	: Inhalation should be min	mized as with any non-	toxic dust.		
Steps to be taken in case of Spill or		n up with vacuum clear			
Waste Disposal Method	: Waste material may b				
		al environmental regula			
Section 10. Regulatory Inform	nation				
NFPA Rating (U.S.A.)		ability = 1 Read	ctivity = 0		
WHMIS Legislation (Canada)	: This product is not a cor				
Transport Information	: This product is not a haz				
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)

Section 1. Product Identification

Product :\_SF-730T1(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					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	None
Styrene –acrylate copolymer	25767-47-9	> 92%	Not listed	Not listed	None
Organic ammonium salt	102561-46-6	< 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 Da	ta		
Route(s) of Entry : Inhalation	<u>1?</u> <u>Skin?</u>	Ingestion?	
Yes	No	Possible but very unusual.	
Health Hazards : Acute Toxic	ty: LD50 > 5,000mg/kg. LC5	50 > 6.42 mg/L'4Hrs	
Mutagenicit	y (Ames Test): Negative. (S.ty	/phimurium,Escherichia coli)	
(Note: c	lata is from testing of similar r	materials.)	
Carcinogenicity : In 1996 the L	ARC reevaluated carbon black	k as a Group 2B carcinogen (possible human	
carcinogen). Th	is classification is given to che	emicals for which there is inadequate human	
evidence, but su	fficient animal evidence on wh	hich to base an opinion of carcinogenicity. The	
classification is	based upon the development	of lung tumors in rats receiving chronic inhalation	
exposures to fre	e carbon black at levels that i	induce particle overload of the lung. Studies	
performed in an	imal models other than rats di	id not show any association between carbon black and	
lung tumors. Mo	reover, a two-year cancer bic	bassay using a typical toner preparation containing carb	on
black demonstra	ated no association between to	oner exposure and tumor development in rats.	
Chronic Effect : In a study in r	ats of chronic inhalation expo	sure to a typical toner, a mild to moderate degree	
of lung fibrosis v	vas observed in 92% of the ra	ats in the high concentration (16mg/m <sup>3</sup> ) exposure group	),
and a minimal to	o mild degree of fibrosis was r	noted in 22% of the animals in the middle $(4mg/m^3)$	
exposure group	, but no pulmonary change wa	as reported in the lowest (1mg/m <sup>3</sup> ) exposure group,	
	nt level to potential human exp		
	· · ·		

#### 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

:

MSDS No. F-0161

Date Revised: July 1, 1996 Date Issued : July 20, 1995

## MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-0161

Section 5 Health Hazard Data (	Continued)		MSDS No. F-0161
Section 5. Health Hazard Data (			
Emergency and First Aid Procedu	ve to fresh air. If effects occur	·	
	se of contact, immediately flus	•	
Eye In cas	se of contact, infinediately hus	n eyes with water for 15	minutes.
Section 6. Physical Chemical C	haractoristics		
	oplicable	Specific Gravity	: 1.1
	oplicable	Solubility in Water	: Negligible
•	oplicable	PH	: Not applicable
	oplicable	Viscosity	: Not applicable
	powder	Color	: Black
Odor : Odor			. Black
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 <sub>2</sub> , dry chemical, foa		
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Haza	rd : This material has no un	usual fire or explosion h	azards.
Sensitivity to Mechanical Impact	: None		
Sensitivity to Static Charge	: None		
Section 8. Reactivity Data			
Stability	: Stable		
Incompatibility (Material to Avoid)		nes.	
Hazardous Decomposition	: CO, CO2 and NOx		
Hazardous Polymerization	: Will not occur.		
Operations Operations for Opfo			
Section 9. Precautions for Safe		and Dratastics Olave)	
Personal Protection Information			
term exposure, as with any	mmended when handling a lar	ge quantity of toner of d	
Engineering Control / Ventilation			
Work / Hygienic Practice	: Inhalation should be mi	nimized as with any non-	toxic dust
Steps to be taken in case of Spill		an up with vacuum clear	
Waste Disposal Method		be disposed under conc	
Music Disposal method		cal environmental regula	
Section 10. Regulatory Informat	ion		
NFPA Rating (U.S.A.)		nability = 1 Read	ctivity = 0
WHMIS Legislation (Canada)	: This product is not a co		,
Transport Information	: This product is not a ha	•	
UN No.	: None allocated.		
Section 11. Other Information			
			cinogenic Risk of Chemicals to
Humans, Vol. 65, Printing Process	and Printing inks, Carbon Bla	ck and Some Nitro Com	pounds, Lyon,
pp-149-261			
H. Muhle, B. Bellmann, O. Creutz			
P. Morrow, U. Mohr, S. Takenaka	. ,		Toner upon Chronic
Inhalation Exposure in Rats. Fur	damental and Applied Toxico	logy 17, pp. 280-299	

## **MATERIAL SAFETY DATA SHEET (1/2)**

## 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.

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

### **Section 3. Ingredients**

<b>Ingredients</b>	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits
Carbon black	1333-86-4	< 7%	3.5mg/m្វ័	3.5mg/m្វ័	None
Silica	68909-20-6	< 1%	15mg/m <sup>°</sup>	10mg/m³	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 : <u>Inhalation?</u>	<u>Skin?</u>	Ingestion?	
Yes	No	Possible but very unusual.	
Health Hazards : Acute Toxicity: LD50	> 5,000mg/kg. LC	50 > 6.42 mg/L'4Hrs	
Mutagenicity (Ames T	est): Negative. (S.ty	yphimurium,Escherichia coli)	
(Note: data is fror	m testing of similar	materials.)	
Carcinogenicity : In 1996 the IARC reeva	aluated carbon blac	k as a Group 2B carcinogen (possible	
human carcinogen). This	classification is give	en to chemicals for which there is	
inadequate human evidence	ce, but sufficient ani	imal evidence on which to base an opinion of	
carcinogenicity. The class	ification is based u	pon the development of lung tumors in rats	
receiving chronic inhalation	n exposures to free	carbon black at levels that induce	
particle overload of the lur	ng. Studies perform	ned in animal models other than rats did	
not show any association	between carbon bla	ack and lung tumors. Moreover, a two-year	
cancer bioassay using a t	ypical toner prepara	ation containing carbon black demonstrated no	
association between toner	exposure and tum	or development in rats.	
Chronic Effect : In a study in rats of chro	onic inhalation expo	sure to a typical toner, a mild to	
		ed in 92% of the rats in the high concent-	
		mal to mild degree of fibrosis was noted in	
		posure group, but no pulmonary change was	
		oup, the most relevant level to potential	
human exposures.	0 / 1 0		
Signs and Symptoms of Exposure	:		
	atory tract may occu	ur as with exposure to any non-toxic dust.	

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. Medical Conditions Generally Aggravated by Exposure : None

MSDS No. F-0281-2

Date Revised: October 1, 1997 Date Issued : October 27, 1992

## 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.

	Characteristics		
BoilingMelting Point       :       Not applic         Vapor Pressure       :       Not applic         Vapor Density       :       Not applic         Evaporation Rate       :       Not applic         Appearance       :       Fine powe         Odor       :       Odorless         Section 7. Fire and Explosion       Fine powe         Flash Point (Method Used)       :	able able able able der	Specific Gravity Solubility in Water PH Viscosity Color	<ul> <li>1.2</li> <li>Negligible</li> <li>Not applicable</li> <li>Not applicable</li> <li>Black</li> </ul>
gnition Temperature Flammable Limits Extinguishing Media Special Fire Fighting Procedure Jnusual Fire and Explosion Hazard Sensitivity to Mechanical Impact Sensitivity to Static Charge	<ul> <li>Not applicable</li> <li>(LEL); Not applicable</li> <li>CO<sub>2</sub>, dry chemical, foam</li> <li>None</li> <li>This material has no unus</li> <li>None</li> <li>None</li> <li>None</li> </ul>		
Section 8. Reactivity Data			
Stability ncompatibility (Material to Avoid) Hazardous Decomposition Hazardous Polymerization	<ul> <li>Stable</li> <li>Strong acids and alkaline</li> <li>Phenol derivatives, Carbo temperature. (&gt; 300<sup>o</sup>C)</li> <li>Will not occur.</li> </ul>		ated at high
Section 9. Precautions for Sa	fe Handling and Us	e	
Personal Protection Information (Res Use of a dust mask is recomm term exposure, as with any nor Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or I Waste Disposal Method	ended when handling a large n-toxic dust. : Not required. : Inhalation should be minin	e quantity of toner or du nized as with any non-t up with vacuum clean e disposed under condi	rring long roxic dust. er. tions which meet all
Section 10. Regulatory Inform	ation		
NFPA Rating (U.S.A.) WHMIS Legislation (Canada) Fransport Information JN No.		trolled product.	tivity = 0
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)

## Section 1. Product Identification

MSDS No. F-0301

#### 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TĻV</u>	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m	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?	Skin?	Ingestion?	
Yes	No	Possible but very unusual.	
Health Hazards : Acute oral	toxicity LDL <sub>0</sub> of this ton	ner is over 2,000mg/kg.	
Mutagenic	ity The result of Ames t	test is negative.	
Carcinogenicity : In 1996 the	e IARC reevaluated carbor	n black as a Group 2B carcinogen (possible	
human carcinogen)	<ol> <li>This classification is give</li> </ol>	en to chemicals for which there is	
inadequate human	evidence, but sufficient ani	imal evidence on which to base an opinion of	
		pon the development of lung tumors in rats	
receiving chronic ir	halation exposures to free	e carbon black at levels that induce	
particle overload of	f the lung. Studies perform	ned in animal models other than rats did	
not show any asso	ciation between carbon bla	ack and lung tumors. Moreover, a two-year	
		ation containing carbon black demonstrated no	
	en toner exposure and tum		
•		n exposure to a typical toner, a mild to	
		ed in 92% of the rats in the high concent-	
ration (16mg/m <sup>3</sup> ) e	xposure group, and a mini	imal to mild degree of fibrosis was noted in	
		xposure group, but no pulmonary change was	
•	est (1mg/m <sup>3</sup> ) exposure gro	oup, the most relevant level to potential	
human exposures.			
Signs and Symptoms of Exposu	re : Minimal irrit	tation to respiratory tract may occur as with	
exposure to any no			
Medical Conditions Generally Ag	gravated 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-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 Chemica	Characteristics		
BoilingMelting Point : Not appl	cable Sp	ecific Gravity	: 1.1
Vapor Pressure : Not appl	cable So	lubility in Water	: Negligible
Vapor Density : Not appl	cable PH	l	: Not applicable
Evaporation Rate : Not appl	cable Vis	scosity	: Not applicable
Appearance : Fine pov	vder Co	lor	: Black
Odor : Odorless			
Section 7. Fire and Explosion			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	icable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam or	water	
Special Fire Fighting Procedure	: None		
<b>Unusual Fire and Explosion Hazard</b>	: This material has no unusual	fire or explosion ha	azards.
Sensitivity to Mechanical Impact	: None		
Sensitivity to Static Charge	: None		
Section 9 Reactivity Data			
Section 8. Reactivity Data	: Stable		
Stability			
Incompatibility (Material to Avoid)	: None		
Hazardous Decomposition	: CO and NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for S			
Personal Protection Information (Re			
	nended when handling a large qua	antity of toner or du	iring long
term exposure, as with any no			
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice	: Inhalation should be minimize	•	
Steps to be taken in case of Spill or			
Waste Disposal Method	: Waste material may be dis		
	federal, state and local en	vironmental regulat	tions.
Section 10. Regulatory Inform	mation		
NFPA Rating (U.S.A.)	: Health = 1 Flammability	v = 1 Reac	tivity = 0
WHMIS Legislation (Canada)	: This product is not a controlle		, •
Transport Information	: This product is not a hazardo		
UN No.	: None allocated.	ao matonali	

#### 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

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	Sharp Electronics (U.K.) Ltd.		
Kingdom	Telephone number for information: 01923-474013		

Section 3. Ingredients					
Ingredients	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	Other Limits
Polystyrene	9003-53-6	> 60%	Not listed	Not listed	None
Styrene-Acrylate copolymer	29497-14-1	< 30%	Not listed	Not listed	None
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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	n Hazard Data			
Route(s) of Entry :	Inhalation?	<u>Skin?</u>	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :			ite oral toxicity" and "Ames test". It does	s not
	represent a healt	th hazard.		
Carcinogenicity :	In 1996 the IARC	C reevaluated carbon	black as a Group 2B carcinogen (possib	le
huma	n carcinogen). This	s classification is giver	n to chemicals for which there is	
inade	quate human evider	nce, but sufficient anir	nal evidence on which to base an opinion	ı of
	0 ,	•	on the development of lung tumors in rate	S
receiv	ing chronic inhalatio	on exposures to free	carbon black at levels that induce	
•		•	ed in animal models other than rats did	
			ck and lung tumors. Moreover, a two-yea	
	, ,		tion containing carbon black demonstrate	d no
assoc		•	r development in rats.	
Chronic Effect :	•		exposure to a typical toner, a mild to	
			d in 92% of the rats in the high concent-	
			nal to mild degree of fibrosis was noted ir	
			posure group, but no pulmonary change v	Nas
repor	ted in the lowest (1)	mg/m³) exposure gro	up, the most relevant level to potential	
huma	in exposures.			
Signs and Symptom	•	:		
Minim	val irritation to receiv	ratory tract may accu	r as with avancura to any pon-toxic dust	

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. <u>Medical Conditions Generally Aggravated by Exposure</u>: None

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

## 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 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not applicable	
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam	or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no unus	ual fire or explosion hazards.	
Sensitivity to Mechanical Impact	: None		
Sensitivity to Static Charge	: None		

#### Section 8. Reactivity Data

Incompatibility (Material to Avoid) : None Hazardous Decomposition : CO and NOx	Stability	: Stable
	Incompatibility (Material to Avoid)	: None
	Hazardous Decomposition	: CO and NOx
Hazardous Polymerization : Will not occur.	Hazardous Polymerization	: Will not occur.

: None allocated.

Section 9. Precautions for S	afe Handling and Use				
Personal Protection Information (Re	espiratory, Eye Protection and Protective Glove):				
Use of a dust mask is recomr	nended when handling a large quantity of toner or during long				
term exposure, as with any ne	on-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 Infor	mation				
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.				

## Section 11. Other Information

UN No.

**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

#### Date Revised: March 25, 1997 Date Issued : November 1, 1992

## **MATERIAL SAFETY DATA SHEET (1/2)**

MSDS No. F-0381

## 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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 Entr	y : Inhalation?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards	: Acute oral toxicity	LDL <sub>0</sub> of this tone	er is over 2,000mg/kg.	
	Mutagenicity Th	ne result of Ames te	st is negative.	
Carcinogenicity	: In 1996 the IARC	reevaluated carbon	black as a Group 2B carcinogen (possible	
h	uman carcinogen). This c	classification is giver	n to chemicals for which there is	
in	adequate human evidence	e, but sufficient anin	nal evidence on which to base an opinion of	
Ca	arcinogenicity. The classi	fication is based up	on the development of lung tumors in rats	
	0	•	carbon black at levels that induce	
			ed in animal models other than rats did	
n	ot show any association t	between carbon blac	ck and lung tumors. Moreover, a two-year	
Ca	ancer bioassay using a ty	pical toner preparat	ion containing carbon black demonstrated no	
a	ssociation between toner			
Chronic Effect	-		exposure to a typical toner, a mild to	
			d in 92% of the rats in the high concent-	
			nal to mild degree of fibrosis was noted in	
			oosure group, but no pulmonary change was	
re	ported in the lowest (1mg	g/m³) exposure grou	up, the most relevant level to potential	
h	uman 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

:

Date Revised: March 25, 1997 Date Issued : November 1, 1992

## 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 applie	cable	Specific Gravity	: 1.1
Vapor Pressure : Not applie	cable	Solubility in Water	: Negligible
Vapor Density : Not applie	cable	PH	: Not applicable
Evaporation Rate : Not applie		Viscosity	: Not applicable
Appearance : Fine pow	der	Color	: Black
Odor : Odorless			
Section 7. Fire and Explosion	n Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	$: > 350^{\circ}C$		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	cable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar		Cable
Special Fire Fighting Procedure	: None	I UI WALEI	
Unusual Fire and Explosion Hazard		qual fire or evaluation be	vzordo
	: This material has no unus		120105.
Sensitivity to Mechanical Impact			
Sensitivity to Static Charge	: None		
Section 8. Reactivity Data			
Stability	: Stable		
Incompatibility (Material to Avoid)	: None		
Hazardous Decomposition	: CO and NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for Sa	afe Handling and Us	e	
Personal Protection Information (Res			
Use of a dust mask is recomm			
term exposure, as with any no			3 - 3
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice	: Inhalation should be minii	mized as with any non-t	oxic dust.
Steps to be taken in case of Spill or		n up with vacuum clean	
Waste Disposal Method	: Waste material may be	•	
		al environmental regulat	
Section 10 Regulatory Inform	nation		
Section 10. Regulatory Inform NFPA Rating (U.S.A.)		hility 1 Daar	tivity O
			tivity = 0
WHMIS Legislation (Canada)	: This product is not a con		
Transport Information	: This product is not a haz	ardous material.	
UN No.	: None allocated.		
Section 11. Other Information			
		e Evaluation of the Car	cinogenic Risk of Chemicals to

**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)

## Section 1. Product Identification

MSDS No. F-0421

#### 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	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		2	2	
Carbon black	1333-86-4	> 3%	3.5mg/m <sup>3</sup>	3.5mg/m <sup>3</sup>	None
Polypropylene	9003-07-0	< 3%	Not listed	Not listed	None
Styrene-ethylene/butylene	8005-02-5	< 3%	Not listed	Not listed	None
copolymer Titanium dioxide	13463-67-7	< 3%	10mg/m <sup>3</sup>	10mg/m <sup>3</sup>	10mg/m <sup>3</sup> (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. Healt	h Hazard Data	l		
Route(s) of Entry :	Inhalation?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxici	ty LDL <sub>0</sub> of this tone	er is over 2,000 mg/kg.	
	Mutagenicity	The result of Ames te	est is negative.	
Carcinogenicity :	In 1996 the IAR	C reevaluated carbon	black as a Group 2B carcinogen (possible	
huma	an carcinogen). This	s classification is giver	n to chemicals for which there is inadequate	
huma	in evidence, but suf	ficient animal evidence	e on which to base an opinion of carcinogenicity.	
The c	classification is base	d upon the developm	ent of lung tumors in rats receiving chronic inhalation	
expos	sures to free carbor	n black at levels that in	nduce particle overload of the lung. Studies performe	эd
in an	mal models other the	nan rats did not show	any association between carbon black and lung tumo	rs.
More	over, a two-year ca	incer bioassay using a	a typical toner preparation containing carbon black	
demo	onstrated no associa	ation between toner e	xposure and tumor development in rats.	
Chronic Effect :	5		exposure to a typical toner, a mild to moderate degree	
	5		ts in the high concentration (16mg/m <sup>3</sup> ) exposure grou	p,
			oted in 22% of the animals in the middle (4mg/m <sup>3</sup> )	
expos	sure group, but no p	oulmonary change wa	s reported in the lowest (1mg/m <sup>3</sup> ) exposure group,	
the m	nost relevant level to	potential human exp	osures.	
Signs and Symptom	is of Exposure	:		
Minimal irritation to re-	spiratory tract may	occur as with exposu	e to any non-toxic dust	

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. **Medical Conditions Generally Aggravated by Exposure** : None

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 appli		Specific Gravity	: About 5
Vapor Pressure : Not appli		Solubility in Water	: Negligible
Vapor Density : Not appli		PH	: Not applicable
Evaporation Rate : Not appli		Viscosity	: Not applicable
Appearance : Fine pow		Color	: Black
Odor : Faint odo		COIOI	. DIACK
Section 7. Fire and Explosio	n Data		
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: Not applicable		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	cable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar	n or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no unu	sual fire or explosion ha	azards.
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 S	afe Handling and Us	Se	
Personal Protection Information (Re	spiratory, Eye Protection a	and Protective Glove):	
Use of a dust mask is recomm			
term exposure, as with any no			0
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice	: Inhalation should be min	mized as with any non-t	oxic dust.
Steps to be taken in case of Spill or	Leak : Sweep up or clea	n up with vacuum clean	er.
Waste Disposal Method	: Waste material may b		
	federal, state and loca	al environmental regulat	ions.
Section 10. Regulatory Inforr	nation		
NFPA Rating (U.S.A.)		ability = 1 Reac	tivity = 0
WHMIS Legislation (Canada)	: This product is not a cor		· · · · · ·
Transport Information	: This product is not a haz		
UN No.	: None allocated.		
Section 11. Other Information	1		
		e Evaluation of the Car	cinogenic Risk of Chemicals t
Humans, Vol. 65, Printing Process ar			
-	ia i mining into, Caibon Blac		Jourius, 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

Date Revised: August 1, 1996 Date Issued : January 11, 1995

## 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

Section 3. Ingredients					
Ingredients	CAS No.	Proportion	n OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	None
Polystyrene	9003-53-6		Not listed	Not listed	None
Styrene-butylacrylate	29497-14-1	> 85%	Not listed	Not listed	None
-butylmethaacrylate 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 Id	entification (Er	nergency	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	n Hazard Data			
Route(s) of Entry :	Inhalation?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxicity	· LDL <sub>0</sub> of this tone	er is over 2,000mg/kg.	
	0,	he result of Ames te	0	
Carcinogenicity :	In 1996 the IARC	reevaluated carbon	black as a Group 2B carcinogen (possible	
huma	n carcinogen). This	classification is give	n to chemicals for which there is	
			mal evidence on which to base an opinion of	
			oon the development of lung tumors in rats	
			carbon black at levels that induce	
•		•	ed in animal models other than rats did	
	•		ck and lung tumors. Moreover, a two-year	
			tion containing carbon black demonstrated no	
		•	or development in rats.	
Chronic Effect :	5		exposure to a typical toner, a mild to	
			ed in 92% of the rats in the high concent-	
			nal to mild degree of fibrosis was noted in	
			posure group, but no pulmonary change was	
repor	ted in the lowest (1m	ng/m³) exposure gro	up, the most relevant level to potential	
	in exposures.			
Signs and Symptom	•	:		
Minim	val irritation to recoir	atory tract may occu	r as with exposure to any non-toxic dust	

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. **Medical Conditions Generally Aggravated by Exposure**: None

Date Revised: August 1, 1996 Date Issued : January 11, 1995

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

	Characteristics			
BoilingMelting Point : Not applie	cable	Specific Gravity	: 1.1	
Vapor Pressure : Not applie	cable	Solubility in Water	: Negligible	
Vapor Density : Not applie	cable	PH	: Not applicable	
Evaporation Rate : Not applie	cable	Viscosity	: Not applicable	
Appearance : Fine pow	der	Color	: Black	
Odor : Odorless				
Section 7. Fire and Explosion	n Data			
Flash Point (Method Used)	: Not applicable			
Ignition Temperature	$: > 350^{\circ}C$			
Flammable Limits	: (LEL); Not applicable	(UEL); Not app	licable	
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar	n or water		
Special Fire Fighting Procedure	: None			
Unusual Fire and Explosion Hazard	: This material has no unu	sual fire or explosion h	azards.	
Sensitivity to Mechanical Impact	: None			
Sensitivity to Static Charge	: None			
j-				
Section 8. Reactivity Data				
Stability	: Stable			
Incompatibility (Material to Avoid)	: None			
Hazardous Decomposition	: CO and NOx			
Hazardous Polymerization	: Will not occur.			
Section 9. Precautions for Sa				
Personal Protection Information (Res				
Use of a dust mask is recomm	<b>a a</b>	e quantity of toner or d	uring long	
term exposure, as with any no				
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		n up with vacuum clear		
Waste Disposal Method	: Waste material may b	e disposed under conc	litions which meet all	
	federal, state and loca	al environmental regula	itions.	
Section 10. Regulatory Inform				
NFPA Rating (U.S.A.)		5	tivity = 0	
WHMIS Legislation (Canada)	: This product is not a cor			
Transport Information	: This product is not a haz	ardous material.		
UN No.	: None allocated.			
Section 11 Other Information				

#### Section 11. Other Information

IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to References : 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-0531

## Section 1. Product Identification

Product :

SF-240NT1/SF-240T1 (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					
Ingredients	<u>CAS No.</u>	Proportion	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	Other Limits
Styrene-Acrylate copolymer	25767-47-9	> 90%	Not listed	Not listed	None
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m	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?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards	: Acute oral toxicity	LDL <sub>0</sub> of this ton	er is over 2,000mg/kg.	
	Mutagenicity T	he result of Ames te	est is negative.	
Carcinogenicity	: In 1996 the IARC	reevaluated carbon	black as a Group 2B carcinogen (possible	
hu	man carcinogen). This	classification is give	n to chemicals for which there is	
	•		nal evidence on which to base an opinion of	
ca	rcinogenicity. The class	ification is based up	oon the development of lung tumors in rats	
	5	•	carbon black at levels that induce	
			ed in animal models other than rats did	
			ck and lung tumors. Moreover, a two-year	
			tion containing carbon black demonstrated no	
	sociation between toner	•	•	
Chronic Effect	-		exposure to a typical toner, a mild to	
			d in 92% of the rats in the high concent-	
			nal to mild degree of fibrosis was noted in	
			posure group, but no pulmonary change was	
re	ported in the lowest (1m	າg/m³) exposure gro	up, the most relevant level to potential	
hu	man 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

Date Revised: April 23, 1997 Date Issued : November 1, 1995

## 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 C	Chemical Characteristic	S			
BoilingMelting Point	Not applicable	Specific Gravity : 1.1			
Vapor Pressure :	Not applicable	Solubility in Water : Negligible			
Vapor Density :	Not applicable	PH : Not applicab	le		
Evaporation Rate :	Not applicable	Viscosity : Not applicab			
Appearance :	Fine powder	Color : Black			
Odor :	Odorless				
	odoness				
Section 7. Fire and I					
Flash Point (Method Used					
Ignition Temperature	: > 350 <sup>°</sup> C				
Flammable Limits	: (LEL); Not applie				
Extinguishing Media	: CO <sub>2</sub> , dry chemie	cal, foam or water			
<b>Special Fire Fighting Proc</b>	edure : None				
<b>Unusual Fire and Explosic</b>		s no unusual fire or explosion hazards.			
Sensitivity to Mechanical	mpact : None				
Sensitivity to Static Charg	e : None				
	<u> </u>				
Section 8. Reactivity					
Stability	: Stable				
Incompatibility (Material to					
Hazardous Decomposition					
Hazardous Polymerization	: Will not occur.				
Section 9. Precaution	s for Safe Handling a	nd Use			
		ection and Protective Glove):			
Use of a dust mask	is recommended when handlir	ng a large quantity of toner or during long			
	with any non-toxic dust.				
Engineering Control / Ven	tilation : Not required.				
Work / Hygienic Practice	: Inhalation should	I be minimized as with any non-toxic dust.			
Steps to be taken in case	of Spill or Leak : Sweep up	o or clean up with vacuum cleaner.			
Waste Disposal Method	: Waste materia	al may be disposed under conditions which meet	all		
	federal, state	and local environmental regulations.			
Section 10. Regulator	w Information				
NFPA Rating (U.S.A.)	: Health = 1	Flammability = 1 Reactivity =1			
WHMIS Legislation (Canad		not a controlled product.			
Transport Information		ot a hazardous material.			
	: None allocated.	iut a nazaluuus matenai.			
UN No.					

#### 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)**

## Section 1. Product Identification

MSDS No. F-0541

#### Product :

#### SF-230NT1/SF-230T1 (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.

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

Section 3. Ingredients					
Ingredients	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	Other Limits
Polystyrene	9003-53-6	> 60%	Not listed	Not listed	None
Styrene-Acrylate copolymer	25767-47-9	< 30%	Not listed	Not listed	None
Carbon black	1333-86-4	< 6%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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. Heal	th Hazard Data			
Route(s) of Entry	Inhalation?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxicity	y $LDL_0$ of this ton	er is over 2,000mg/kg.	
	Mutagenicity 7	The result of Ames to	est is negative.	
Carcinogenicity :	In 1996 the IARC	reevaluated carbor	black as a Group 2B carcinogen (possible	
hum	an carcinogen). This	classification is give	n to chemicals for which there is	
	•		mal evidence on which to base an opinion of	
carc	inogenicity. The clas	sification is based up	oon the development of lung tumors in rats	
rece	iving chronic inhalatio	on exposures to free	carbon black at levels that induce	
part	icle overload of the lu	ng. Studies perform	ed in animal models other than rats did	
	•		ack and lung tumors. Moreover, a two-year	
	, ,	, i i	tion containing carbon black demonstrated no	
		-	or development in rats.	
Chronic Effect :	•		exposure to a typical toner, a mild to	
			ed in 92% of the rats in the high concent-	
			mal to mild degree of fibrosis was noted in	
			posure group, but no pulmonary change was	
repo	orted in the lowest (1r	ng/m <sup>3</sup> ) exposure gro	up, the most relevant level to potential	
	an exposures.			
Signs and Sympton	ms of Exposure	:		
Mini	mal irritation to respir	atory tract may occu	ir as with exposure to any non-toxic dust	

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. **Medical Conditions Generally Aggravated by Exposure** : None

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

## 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.

	emical Characteristic		
	ot applicable	Specific Gravity	: 1.1
	ot applicable	Solubility in Water	: Negligible
	ot applicable	PH	: Not applicable
	ot applicable	Viscosity	: Not applicable
	ine powder	Color	: Black
Odor : O	dorless		
Section 7. Fire and Exp			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applic		cable
Extinguishing Media	: CO <sub>2</sub> , dry chemic	al, foam or water	
<b>Special Fire Fighting Procedu</b>			
Unusual Fire and Explosion H		no unusual fire or explosion ha	zards.
Sensitivity to Mechanical Imp	act : None		
Sensitivity to Static Charge	: None		
Section 8. Reactivity Da	ata		
Stability	: Stable		
Incompatibility (Material to Av	/oid) : None		
Hazardous Decomposition	: CO and NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions	for Safe Handling a	nd Use	
<b>Personal Protection Informati</b>			
Use of a dust mask is r	recommended when handlin	g a large quantity of toner or du	ring long
term exposure, as with			
<b>Engineering Control / Ventilat</b>	tion : Not required.		
Work / Hygienic Practice	: Inhalation should	be minimized as with any non-t	oxic dust.
		or clean up with vacuum clean	
Steps to be taken in case of S	• • •	l may be disposed under condi	
Steps to be taken in case of S Waste Disposal Method			
Steps to be taken in case of S Waste Disposal Method		and local environmental regulat	ions.
Waste Disposal Method	federal, state	and local environmental regulat	ions.
Waste Disposal Method Section 10. Regulatory	federal, state		
Waste Disposal Method Section 10. Regulatory NFPA Rating (U.S.A.)	federal, state Information : Health = 1	Flammability = 1 React	ions. ivity = 0
Waste Disposal Method Section 10. Regulatory NFPA Rating (U.S.A.) WHMIS Legislation (Canada)	federal, state Information : Health = 1 : This product is n	Flammability = 1 React ot a controlled product.	
Waste Disposal Method Section 10. Regulatory NFPA Rating (U.S.A.)	federal, state Information : Health = 1 : This product is n	Flammability = 1 React	

**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

Date Revised: November 15, 1999 Date Issued : June 1, 1997

## **MATERIAL SAFETY DATA SHEET (1/2)**

MSDS No. F-30731

Section 1. Product Identification	n
Product :	
SF-234MD/SF-234CD/SF-234LD (Black	(Developer)
Section 2. Supplier's Name an	d Address
Sharp Corporation	
22-22 Nagaike-cho, Abeno-ku, Osaka, Ja	ipan
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	

Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits
Magnetite	1317-61-9	> 94%	Not listed	Not listed	None
Styrene-acrylate copolymer	25767-47-9	< 5%	Not listed	Not listed	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 :	nhalation?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxicity	y LDL <sub>0</sub> of the tone	er which is included in this developer is a	over 2,000mg/kg.
	Mutagenicity 7	The toner, which is ir	ncluded in this developer has been teste	ed on the Ames test.
	The result is nega	ative.		
Carcinogenicity :	In 1996 the IARC	reevaluated carbor	black as a Group 2B carcinogen (poss	ible
humar	a carcinogen). This	classification is give	n to chemicals for which there is	
inadeq	uate human eviden	ice, but sufficient ani	mal evidence on which to base an opinio	on of
carcino	ogenicity. The clas	sification is based up	oon the development of lung tumors in ra	ats
receivi	ng chronic inhalatic	on exposures to free	carbon black at levels that induce	
particle	e overload of the lu	ng. Studies perform	ed in animal models other than rats did	
not she	ow any association	between carbon bla	ck and lung tumors. While there have b	peen no studies to
date u	sing developer, a t	wo-year cancer bioa	ssay using a typical toner preparation c	ontaining carbon
black (	a small amount of	toner is included in t	ne developer mixture) demonstrated no	association between
toner	exposure and tumo	r development in rate	S. ,	

### 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 applie	cable	Specific Gravity	: about 5		
Vapor Pressure : Not applie	cable	Solubility in Water	: Negligible		
Vapor Density : Not applie	cable	PH	: Not applicable		
Evaporation Rate : Not applie		Viscosity	: Not applicable		
Appearance : Fine power		Color	: Black		
Odor : Odorless					
Section 7. Fire and Explosion					
Flash Point (Method Used)	: Not applicable				
Ignition Temperature	: > 350°C				
Flammable Limits	: (LEL); Not applicable	(UEL); Not app	licable		
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam	or water			
Special Fire Fighting Procedure	: None				
Unusual Fire and Explosion Hazard	: This material has no unus	sual fire or explosion h	azards.		
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 NOx				
Hazardous Polymerization : Will not occur.					
Section 9. Precautions for Sa					
Personal Protection Information (Res					
Use of a dust mask is recomm		e quantity of toner or d	uring long		
term exposure, as with any nor					
Engineering Control / Ventilation	: Not required.				
Work / Hygienic Practice	: Inhalation should be mini	-			
Steps to be taken in case of Spill or		n up with vacuum clear			
Waste Disposal Method	: Waste material may be				
	federal, state and loca	l environmental regula	tions.		
Section 10 Degulatory Inform	ation				
Section 10. Regulatory Inform NFPA Rating (U.S.A.)		bility 1 Dece	stivity 0		
			ctivity = 0		
WHMIS Legislation (Canada)	: This product is not a con				
	Transport Information       : This product is not a hazardous material.				
UN No.	: None allocated.				
Section 11 Other Information					

#### 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 (I	Black Develope	er)				
Section 2. Supplier's Name and	Address					
Sharp Corporation						
22-22 Nagaike-cho, Abeno-ku, Osaka, Japan						
Local suppliers are listed below. Ple	•	e nearest supplier	r for additional int	formation.		
(Country)			d Telephone Nu			
U.S.A.	Sharp E	Electronics Corpo	ration	,		
	•	one number for in		-237-4277		
		ncy telephone nu				
Canada	•	Electronics of Car				
	Telepho	one number for in	formation: 905-8	90-2100		
	Emerge	ncy telephone nu	mber : 1-800-25	55-3924		
United						
Kingdon	Kingdom Telephone number for information: 01923-474013					
Section 3. Ingredients						
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits	
Magnetite	1317-61-9	> 94%	Not listed	Not listed	None	
Polypropylene AND	9003-07-0	50/	Not listed	Not listed	None	
Styrene-butylacrylate-butyl-		< 5%				
methaacrylate copolymer	29497-14-1	(for mixture)	Not listed	Not listed	None	
Carbon black	1333-86-4	< 0.3%	3.5mg/m <sup>3</sup>	3.5mg/m <sup>3</sup>	None	
Section 4. Hazardous Identification (Emergency Overview)						
Occurrent inazaruous inclinitari						

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

Section 5. Health	Hazard Data		
Route(s) of Entry	: Inhalation?	Skin?	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards :		The toner, which is in	er which is included in this developer is over 2,000mg/kg included in this developer has been tested on the Ames
Carcinogenicity :	carcinogen). T evidence, but su The classification chronic inhalation of the lung. Stu association betw date using deve containing carbo	his classification is giv ufficient animal eviden on is based upon the contexposures to free contexposures to free condies performed in ani- ween carbon black an- eloper, a two-year car on black (a small amo	a black as a Group 2B carcinogen (possible human ven to chemicals for which there is inadequate human ce on which to base an opinion of carcinogenicity. development of lung tumors in rats receiving carbon black at levels that induce particle overload mal models other than rats did not show any d lung tumors. While there have been no studies to neer bioassay using a typical toner preparation ount of toner is included in the developer mixture) n 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

Date Revised: November 9, 1998 Date Issued : Oct. 1, 1997

# MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-30781

			MSDS No. F-30781		
Section 5. Health Hazard Data (Cor	tinued)				
<b>Emergency and First Aid Procedures</b>	:				
	o fresh air. If effects occur,	consult medical person	nel.		
Eye In case o	f contact, immediately flush	eyes with water for 15	minutes.		
Section 6. Physical Chemical Chara	acteristics				
BoilingMelting Point : Not applie	able	Specific Gravity	: 5.2		
Vapor Pressure : Not applic		Solubility in Water	: Negligible		
Vapor Density : Not applie	able	PH	: Not applicable		
Evaporation Rate : Not applie		Viscosity	: Not applicable		
Appearance : Fine power	der	Color	: Dark Black		
Odor : Odorless					
Section 7. Fire and Explosion Data	l				
Flash Point (Method Used)	: Not applicable				
Ignition Temperature	: > 350 <sup>0</sup> C				
Flammable Limits	: (LEL); Not applicable	(UEL); Not appli	cable		
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foan				
Special Fire Fighting Procedure	: None				
Unusual Fire and Explosion Hazard	: This material has no unu	sual fire or explosion ha	zards.		
Sensitivity to Mechanical Impact	: None				
Sensitivity to Static Charge	: None				
, ,					
Section 8. Reactivity Data					
Stability	: Stable				
Incompatibility (Material to Avoid)	: None				
azardous Decomposition : CO and NOx					
Hazardous Polymerization	: Will not occur.				
-					
Section 9. Precautions for Safe Ha	ndling and Use				
Personal Protection Information (Res	spiratory, Eye Protection a	and Protective Glove):			
Use of a dust mask is recomm	ended when handling a larg	e quantity of toner or du	iring long		
term exposure, as with any nor	n-toxic dust.				
Engineering Control / Ventilation	: Not required.				
Work / Hygienic Practice	: Inhalation should be mini	mized as with any non-t	oxic dust.		
Steps to be taken in case of Spill or	Leak : Sweep up or clear	n up with vacuum clean	er.		
Waste Disposal Method	: Waste material may b	e disposed under condi	tions which meet all		
	federal, state and loca	al environmental regulat	ions.		
Section 10. Regulatory Information					
NFPA Rating (U.S.A.)			tivity = 0		
WHMIS Legislation (Canada)	: This product is not a cor				
Transport Information	: This product is not a haz	ardous material.			
UN No.	: None allocated.				
Section 11. Other Information					
	, .		cinogenic Risk of Chemicals to		
Humans, Vol. 65, Printing Process an	d Printing inks, Carbon Blac	k and Some Nitro Comp	oounds, Lyon,		
pp-149-261					
H. Muhle, B. Bellmann, O. Creutzenbe					
P. Morrow, U. Mohr, S. Takenaka, an			oner upon Chronic		
Inhalation Exposure in Rats. Fundam	ental and Applied Toxicolog	y 17, pp. 280-299			

Date Revised: August 7, 1998 Date Issued June 1, 1998

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 Sharp Electronics (U.K.) Ltd.	
Kingdom Telephone number for information: 01923-474013	
Section 3. Ingredients	

Ingredients	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits
Ferrite carrier		> 95%	Not listed	Not listed	None
Zinc oxide	1314-13-2		5mg/m <sup>°</sup>	10mg/mໍ	None
Iron oxide	1309-37-1				
Copper oxide	1317-38-0				
Styrene-Acrylate copolymer	25767-47-9	< 4%	Not listed	Not listed	None
Carbon black	1333-86-4	<0.3%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	None

## Section 4. Hazardous Identification (Emergency Overview)

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

Section 5. Health	Hazard Data				
Route(s) of Entry :	Inhalation?	Skin?	Ingestion?		
	Yes	No	Possible but very unusual.		
Health Hazards :	Acute oral toxicity	LDL <sub>0</sub> of the tone	er which is included in this developer is ove	r 2,000mg/kg.	
	Mutagenicity T	he toner, which is in	cluded in this developer has been tested of	on the Ames test.	
	The result is nega	tive.			
Carcinogenicity :	In 1996 the IARC	reevaluated carbon	black as a Group 2B carcinogen (possible	Э	
humar	n carcinogen). This	classification is give	n to chemicals for which there is		
inadeo	uate human evidend	ce, but sufficient anir	mal evidence on which to base an opinion	of	
carcino	ogenicity. The class	ification is based up	oon the development of lung tumors in rats	1	
receivi	ng chronic inhalatio	n exposures to free	carbon black at levels that induce		
particle	e overload of the lur	ng. Studies perform	ed in animal models other than rats did		
not she	ow any association I	between carbon blac	ck and lung tumors. While there have bee	n 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 betwee					
toner e	exposure and tumor	development in rats			
Signs and Symptoms	s of Exposure	:			

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

Medical Conditions Generally Aggravated by Exposure : None

# SHARP

## **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. Physica	I Chemica	I Characteristics		
BoilingMelting Point	: Not app	licable	Specific Gravity	: 5.2
Vapor Pressure	: Not app	licable	Solubility in Water	: Negligible
Vapor Density	: Not app	licable	PH	: Not applicable
Evaporation Rate	: Not app	licable	Viscosity	: Not applicable
Appearance	: Fine pov	wder	Color	: Dark Black
Odor	: Odorles	S		
Flash Point (Method Us Ignition Temperature Flammable Limits Extinguishing Media Special Fire Fighting Pr Unusual Fire and Explo	rocedure	<ul> <li>Not applicable</li> <li>&gt; 350°C</li> <li>(LEL); Not applicable</li> <li>CO<sub>2</sub>, dry chemical, foa</li> <li>None</li> <li>This material has no un</li> </ul>	m or water	
Sensitivity to Mechanic		: None	·	
Sensitivity to Static Ch	arge	: None		
Section 8. Reactivi	ty Data			
Stability		· Stable		

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: CO and NOx
Hazardous Polymerization	: Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Re	spiratory, Eye Protection and Protective Glove):
Use of a dust mask is recomm	nended when handling a large quantity of toner or during long
term exposure, as with any no	on-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	nformation		
NFPA Rating (U.S.A.)	: Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada)	: This product is	s not a controlled product.	
Transport Information	: This product is	s not a hazardous material	
UN No.	: None allocated	d.	

## 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)**

## Section 1. Product Identification

MSDS No. F-3121-1

#### 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	Sharp Electronics (U.K.) Ltd.					
Kingdom	Telephone number for information: 01923-474013					

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits
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 <sup>3</sup>	3.5mg/m <sup>°</sup>	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.

Route(s) of Entry	Ith Hazard Data : Inhalation?	Skin?	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards :	Acute oral toxicity	LDL <sub>0</sub> of the ton	er included in this developer is over 2,000mg/kg.
	Mutagenicity T	he toner, which is i	ncluded in this developer has been tested on the Ames test.
	T	he result is negativ	e.
Carcinogenicity	In 1996 the IARC	reevaluated carbor	n black as a Group 2B carcinogen (possible
hur	man carcinogen). This	classification is give	en to chemicals for which there is
ina	dequate human eviden	ce, but sufficient ani	imal evidence on which to base an opinion of
car	cinogenicity. The class	sification is based u	pon the development of lung tumors in rats
rec	eiving chronic inhalation	n exposures to free	carbon black at levels that induce
par	ticle overload of the lur	ng. Studies perform	ned in animal models other than rats did
not	show any association	between carbon bla	ack and lung tumors. While there have been no studies to
dat	e using developer, a tw	vo-year cancer bioa	issay using a typical toner preparation containing carbon
			he developer mixture) demonstrated no association betwee
ton	er exposure and tumor	development in rat	S.
<b>a 1 a 4</b>			

#### 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

Date Revised: August 29, 1997 Date Issued December 22, 1994

# 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.

2,0			
Section 6. Physical Chemica	I Characteristics		
BoilingMelting Point : Not app	licable	Specific Gravity	: about 5
Vapor Pressure : Not app	licable	Solubility in Water	: Negligible
Vapor Density : Not app	licable	PH	: Not applicable
Evaporation Rate : Not app	licable	Viscosity	: Not applicable
Appearance : Fine pov		Color	: Black
Odor : Odorles			
Section 7. Fire and Explosic			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	icable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar	m or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no uni	usual fire or explosion ha	azards.
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 NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for S	afe Handling and U	se	
Personal Protection Information (Re	espiratory, Eye Protection	and Protective Glove)	
Use of a dust mask is recomm			
term exposure, as with any ne	on-toxic dust.	· - •	
Engineering Control / Ventilation			
Work / Hygienic Practice	: Inhalation should be min	imized as with any non-	toxic dust.
Steps to be taken in case of Spill or			
Waste Disposal Method	: Waste material may b	•	
		al environmental regulat	
Section 10. Regulatory Infor	mation		
NFPA Rating (U.S.A.)		ability = 1 Reac	tivity = 0

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)**

## Section 1. Product Identification

MSDS No. F-3141-2

#### 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	Sharp Electronics (U.K.) Ltd.				
Kingdom					

Section 3. Ingre	edients				
<b>Ingredients</b>	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	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	Not listed	None
Carbon Black	1333-86-4	< 1%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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. He	alth Hazard Data			
Route(s) of Entr	y : Inhalation?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards	: Acute Toxicity: LD50	) > 5,000mg/kg. LC5	50 > 6.42 mg/L'4Hrs	
	Mutagenicity (Ames	Test): Negative. (S.ty	phimurium, Escherichia coli)	
	(Note: data is fro	om testing of the inclu	uded toner.)	
Carcinogenicity	: In 1996 the IAR	C reevaluated carbon	black as a Group 2B carcinogen (possible	
h	uman carcinogen). This	s classification is give	n to chemicals for which there is	
ir	nadequate human evider	nce, but sufficient anii	nal evidence on which to base an opinion of	
C	arcinogenicity. The clas	sification is based up	oon the development of lung tumors in rats	
re	eceiving chronic inhalation	on exposures to free	carbon black at levels that induce	
			ed in animal models other than rats did	
			ck and lung tumors. While there have been no	
S	tudies to date using dev	eloper, a two-year c	ancer bioassay using a typical toner	
р	reparation containing ca	arbon black demonsti	ated no association between toner exposure and	
tı	umor development in rat	S.		
Signs and Symp	otoms of Exposure	: Minimal irrita	ation to respiratory tract may occur as with	
e	xposure to any non-toxi	c dust.		

Medical Conditions Generally Aggravated by Exposure : None

Date Revised : October 1, 1997 Date Issued : April 24, 1995

## MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. F-3141-2

## Section 5. Health Hazard Data (Continued)

Emergency and First Aid Procedures	:
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Inhalation --- Remove to fresh air. If effects occur, consult medical personnel. Eye --- In case of contact, immediately flush eyes with water for 15 minutes.

BoilingMelting Point : Not app	licable Specific Gravity : 5		
Vapor Pressure : Not app	licable Solubility in Water : Negligible		
Vapor Density : Not app	licable <b>PH</b> : Not applicable		
Evaporation Rate : Not app			
Appearance : Fine pov	wder Color : Black		
Odor : Odorles	S		
Section 7. Fire and Explosion			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: Not applicable		
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable		
Extinguishing Media	: CO <sub>2</sub> , 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 <sup>0</sup> C)		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for S			
	espiratory, Eye Protection and Protective Glove):		
	mended when handling a large quantity of toner or during long		
term exposure, as with any n			
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice	: Inhalation should be minimized as with any non-toxic dust.		
	<b>Leak</b> : Sweep up or clean up with vacuum cleaner.		
Steps to be taken in case of Spill or			
Steps to be taken in case of Spill of	: Waste material may be disposed under conditions which meet all		
Steps to be taken in case of Spill of			
Steps to be taken in case of Spill or Waste Disposal Method	: Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.		
Steps to be taken in case of Spill of Waste Disposal Method Section 10. Regulatory Infor NFPA Rating (U.S.A.)	<ul> <li>Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.</li> <li>mation         <ul> <li>Health = 1</li> <li>Flammability = 1</li> <li>Reactivity = 0</li> </ul> </li> </ul>		
Steps to be taken in case of Spill of Waste Disposal Method Section 10. Regulatory Infor NFPA Rating (U.S.A.) WHMIS Legislation (Canada)	: Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.		
	<ul> <li>Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.</li> <li>mation         <ul> <li>Health = 1</li> <li>Flammability = 1</li> <li>Reactivity = 0</li> </ul> </li> </ul>		

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)**

## Section 1. Product Identification

MSDS No. F-3301

## 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	Sharp Electronics (U.K.) Ltd.				
Kingdom Telephone number for information: 01923-474013					

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	ACGIH TLV	Other Limits
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 <sup>3</sup>	3.5mg/m <sup>°</sup>	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?	<u>Skin?</u>	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards :	Acute oral toxicity	/ LDL <sub>0</sub> of the tone	er included in this developer is over 2,000mg/kg.
	Mutagenicity T	he toner, which is ir	ncluded in this eveloper has been tested on the Ames test.
		The result is negativ	e.
Carcinogenicity :	In 1996 the IARC	reevaluated carbor	n black as a Group 2B carcinogen (possible
huma	n carcinogen). This	classification is give	n to chemicals for which there is
inadeo	quate human eviden	ce, but sufficient ani	mal evidence on which to base an opinion of
carcin	ogenicity. The class	sification is based up	oon the development of lung tumors in rats
receiv	ing chronic inhalatio	n exposures to free	carbon black at levels that induce
particl	e overload of the lui	ng. Studies perform	ed in animal models other than rats did
not sh	ow any association	between carbon bla	ck and lung tumors. While there have been no studies to
	•		ssay using a typical toner preparation containing carbon
			he developer mixture) demonstrated no association betwee
	•	development in rate	· ,
	'. <del>-</del>	•	

#### 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

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.

-		•	
	Characteristics		
BoilingMelting Point : Not applic		Specific Gravity	: about 5
Vapor Pressure : Not applic		Solubility in Water	: Negligible
Vapor Density : Not applic		PH	: Not applicable
Evaporation Rate : Not applic		Viscosity	: Not applicable
Appearance : Fine power	der	Color	: Black
Odor : Odorless			
Ocation 7 Fine and Fundacion	Dete		
Section 7. Fire and Explosion			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	$: > 350^{\circ}$ C		11
Flammable Limits	: (LEL); Not applicable	(UEL); Not app	licable
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foan	n or water	
Special Fire Fighting Procedure	: None		
Unusual Fire and Explosion Hazard	: This material has no unu	sual fire or explosion h	azards.
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 NOx		
•			
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for Sa	fe Handling and Us	e	
Personal Protection Information (Res	piratory, Eye Protection a	and Protective Glove	):
Use of a dust mask is recomme	ended when handling a large	e quantity of toner or d	uring long
term exposure, as with any nor	n-toxic dust.		
Engineering Control / Ventilation	: Not required.		
Work / Hygienic Practice	: Inhalation should be mini	mized as with any non-	-toxic dust.
Steps to be taken in case of Spill or I		n up with vacuum clea	
Waste Disposal Method	: Waste material may b		
		al environmental regula	
Section 10. Regulatory Inform			
NFPA Rating (U.S.A.)			ctivity = 0
WHMIS Legislation (Canada)	: This product is not a con		
Transport Information	: This product is not a haz	ardous material.	
UN No.	: None allocated.		
Continue 11 Others Information			
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

#### Date Revised: March 17, 1997 Date Issued : September 2, 1996

## 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	Sharp Electronics (U.K.) Ltd.				
Kingdom	Telephone number for information: 01923-474013				

Section 3. Ingredients					
Ingredients	<u>CAS No.</u>	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	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	Not listed	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m <sup>3</sup>	3.5mg/m <sup>3</sup>	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.

Route(s) of Entry :	Inhalation?	Skin?	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards :	The toner, which	is included in this d	eveloper, has been tested on "Acute oral toxicity"
	and "Ames test".	It does not represe	ent a health hazard.
Carcinogenicity :			n black as a Group 2B carcinogen (possible
	• •	•	en to chemicals for which there is
inade	quate human eviden	ce, but sufficient an	imal evidence on which to base an opinion of
carcii	nogenicity. The class	sification is based u	pon the development of lung tumors in rats
receiv	ving chronic inhalatio	n exposures to free	carbon black at levels that induce
partic	le overload of the lui	ng. Studies perform	ned in animal models other than rats did
			ack and lung tumors. While there have been no studies
	-		assay using a typical toner preparation containing carbor
	•		the developer mixture) demonstrated no association bet
	exposure and tumor		• • •
Signs and Symptom	•	:	-

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

Section 6. Physical Chemical	Characteristics		
BoilingMelting Point : Not applica	ble	Specific Gravity	: about 5
Vapor Pressure : Not applica	ble	Solubility in Water	: Negligible
Vapor Density : Not applica	ble	PH	: Not applicable
Evaporation Rate : Not applica		Viscosity	: Not applicable
Appearance : Fine powde		Color	: Black
Odor : Odorless			
Section 7. Fire and Explosion	Data		
Flash Point (Method Used)	Not applicable		
Ignition Temperature	$> 350^{\circ}C$		
Flammable Limits	(LEL); Not applicable	(UEL); Not appl	icable
	CO <sub>2</sub> , dry chemical, foam		
	None		
	This material has no unus	ual fire or explosion ha	azards.
•	None	·	
,	None		
······································			
Section 8. Reactivity Data			
	Stable		
Incompatibility (Material to Avoid)	None		
Hazardous Decomposition	CO and NOx		
Hazardous Polymerization	Will not occur.		
-			
Section 9. Precautions for Sat			
Personal Protection Information (Res	piratory, Eye Protection an	nd Protective Glove)	:
Use of a dust mask is recomme		quantity of toner or du	uring long
term exposure, as with any non-			
	: Not required.		
	Inhalation should be minim		
Steps to be taken in case of Spill or L		up with vacuum clean	
Waste Disposal Method	: Waste material may be		
	federal, state and local	environmental regula	tions.
Section 10. Regulatory Informa			the the second
0 ( )	Health = 1 Flammat		tivity = 0
	This product is not a contr		
Transport Information	This product is not a haza	rdous material.	
UN No.	None allocated.		

## Section 11. Other Information

IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to References : 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-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	Sharp Electronics (U.K.) Ltd.				
Kingdom	Telephone number for information: 01923-474013				

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	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	Not listed	None
Carbon black	1333-86-4	<0.3%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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 : li	nhalation?	<u>Skin?</u>	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxicity	<ul> <li>LDL<sub>0</sub> of the tone</li> </ul>	er which is included in this developer is over 2,	000mg/kg.
	Mutagenicity The	toner, which is ir	ncluded in this developer has been tested on the	ne Ames test.
	The result is negativ	e.		
Carcinogenicity :			h black as a Group 2B carcinogen (possible	
human	carcinogen). This cla	ssification is give	n to chemicals for which there is	
•			mal evidence on which to base an opinion of	
			oon the development of lung tumors in rats	
receivir	ng chronic inhalation e	exposures to free	carbon black at levels that induce	
particle	overload of the lung.	Studies perform	ed in animal models other than rats did	
not sho	w any association be	tween carbon bla	ck and lung tumors. While there have been no	o studies to
	•	•	ssay using a typical toner preparation containin	•
black (a	a small amount of ton	er is included in tl	he developer mixture) demonstrated no associ	ation between
toner e	xposure and tumor de	evelopment in rate	S.	
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 Chemica	I Characteristics				
BoilingMelting Point : Not appl	icable	Specific Gravity	: about 5		
Vapor Pressure : Not appl	icable	Solubility in Water	: Negligible		
Vapor Density : Not appl	icable	PH	: Not applicable		
Evaporation Rate : Not appl	icable	Viscosity	: Not applicable		
Appearance : Fine pov	vder	Color	: Black		
Odor : Odorless	5				
Section 7. Fire and Explosion					
Flash Point (Method Used)	: Not applicable				
Ignition Temperature	: > 350 <sup>°</sup> C				
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	icable		
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foam	or water			
Special Fire Fighting Procedure	: None				
Unusual Fire and Explosion Hazard	: This material has no unus	sual fire or explosion ha	azards.		
Sensitivity to Mechanical Impact	: None				
Sensitivity to Static Charge	: None				
Section 8. Reactivity Data					
Stability	: Stable				
Incompatibility (Material to Avoid)	: None				
Hazardous Decomposition	azardous Decomposition : CO and NOx				
Hazardous Polymerization	: Will not occur.				
Section 9. Precautions for S	<u>afe Handling and Us</u>	е			
Personal Protection Information (Re					
Use of a dust mask is recomm		e quantity of toner or de	uring long		
term exposure, as with any no					
Engineering Control / Ventilation	: Not required.				
Work / Hygienic Practice	: Inhalation should be minir				
Steps to be taken in case of Spill or		up with vacuum clear			
Waste Disposal Method	: Waste material may be				
	federal, state and loca	I environmental regula	tions.		
Section 10. Regulatory Inform					
NFPA Rating (U.S.A.)			tivity = 0		
WHMIS Legislation (Canada)	: This product is not a cont				
Transport Information	: This product is not a haza	ardous 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)

## Section 1. Product Identification

MSDS No. F-3421

## 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

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

## Section 4. Hazardous Identification (Emergency Overview)

Developer is a black powdercontaining 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. Healt	h Hazard Data		
Route(s) of Entry :	Inhalation?	Skin?	Ingestion?
	Yes	No	Possible but very unusual.
Health Hazards :	Acute oral toxicit	y LDL <sub>0</sub> of the tone	er which is included in this developer is over 2,000mg/kg.
	Mutagenicity	The toner, which is in	ncluded in this developer, has been tested on the Ames test
		Theresult is negative	
Carcinogenicity :	In 1996 the IARC	reevaluated carbon	black as a Group 2B carcinogen (possible
huma	an carcinogen). This	classification is give	n to chemicals for which there is
inade	equate human evider	nce, but sufficient anir	mal evidence on which to base an opinion of
carci	nogenicity. The clas	sification is based up	oon the development of lung tumors in rats
recei	ving chronic inhalatio	on exposures to free	carbon black at levels that induce
partic	cle overload of the lu	ng. Studies perform	ed in animal models other than rats did
not s	how any association	between carbon bla	ck and lung tumors. While there have been no studies to
			ssay using a typical toner preparation containing carbon ne developer mixture) demonstrated no association between
toner	exposure and tumo	r development in rats	5.

#### 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:February 1, 1997 Date Issued July 7, 1995

## 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.

BoilingMelting Point : Not appli	Characteristics         cable       Specific Gravity       : about 5		
Vapor Pressure : Not appli			
Vapor Density : Not appli			
Evaporation Rate : Not appli			
Appearance : Fine pow			
Odor : Odorless			
Section 7. Fire and Explosio			
Flash Point (Method Used)	: Not applicable		
Ignition Temperature	: Not applicable		
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable		
Extinguishing Media	: CO <sub>2</sub> , 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 NOx		
Hazardous Polymerization	: Will not occur.		
Section 9. Precautions for Sa			
	spiratory, Eye Protection and Protective Glove):		
Use of a dust mask is recomm	ended when handling a large quantity of toner or during long		
Use of a dust mask is recommendation term exposure, as with any no	nended when handling a large quantity of toner or during long n-toxic dust.		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation	nended when handling a large quantity of toner or during long n-toxic dust. : Not required.		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice	nended when handling a large quantity of toner or during long n-toxic dust. : Not required. : Inhalation should be minimized as with any non-toxic dust.		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or	nended when handling a large quantity of toner or during long n-toxic dust. : Not required. : Inhalation should be minimized as with any non-toxic dust. Leak : Sweep up or clean up with vacuum cleaner.		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or	<ul> <li>nended when handling a large quantity of toner or during long</li> <li>n-toxic dust.</li> <li>Not required.</li> <li>Inhalation should be minimized as with any non-toxic dust.</li> <li>Leak : Sweep up or clean up with vacuum cleaner.</li> <li>Waste material may be disposed under conditions which meet all</li> </ul>		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice	nended when handling a large quantity of toner or during long n-toxic dust. : Not required. : Inhalation should be minimized as with any non-toxic dust. Leak : Sweep up or clean up with vacuum cleaner.		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or Waste Disposal Method Section 10. Regulatory Inform	<ul> <li>nended when handling a large quantity of toner or during long n-toxic dust.</li> <li>Not required.</li> <li>Inhalation should be minimized as with any non-toxic dust.</li> <li>Leak : Sweep up or clean up with vacuum cleaner.</li> <li>Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.</li> </ul>		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or Waste Disposal Method Section 10. Regulatory Inform NFPA Rating (U.S.A.)	<ul> <li>hended when handling a large quantity of toner or during long n-toxic dust.</li> <li>Not required.</li> <li>Inhalation should be minimized as with any non-toxic dust.</li> <li>Leak : Sweep up or clean up with vacuum cleaner.</li> <li>Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.</li> </ul>		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or Waste Disposal Method Section 10. Regulatory Inform NFPA Rating (U.S.A.) WHMIS Legislation (Canada)	<ul> <li>hended when handling a large quantity of toner or during long n-toxic dust.</li> <li>Not required.</li> <li>Inhalation should be minimized as with any non-toxic dust.</li> <li>Leak : Sweep up or clean up with vacuum cleaner.</li> <li>Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.</li> </ul> nation <ul> <li>Health = 1 Flammability = 1 Reactivity = 0</li> <li>This product is not a controlled product.</li> </ul>		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or Waste Disposal Method Section 10. Regulatory Inform NFPA Rating (U.S.A.) WHMIS Legislation (Canada) Transport Information	<ul> <li>hended when handling a large quantity of toner or during long n-toxic dust.</li> <li>Not required.</li> <li>Inhalation should be minimized as with any non-toxic dust.</li> <li>Leak : Sweep up or clean up with vacuum cleaner.</li> <li>Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.</li> </ul> nation <ul> <li>Health = 1 Flammability = 1 Reactivity = 0</li> <li>This product is not a controlled product.</li> <li>This product is not a hazardous material.</li> </ul>		
Use of a dust mask is recomm term exposure, as with any no Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or Waste Disposal Method Section 10. Regulatory Inform NFPA Rating (U.S.A.) WHMIS Legislation (Canada)	<ul> <li>hended when handling a large quantity of toner or during long n-toxic dust.</li> <li>Not required.</li> <li>Inhalation should be minimized as with any non-toxic dust.</li> <li>Leak : Sweep up or clean up with vacuum cleaner.</li> <li>Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.</li> </ul> nation <ul> <li>Health = 1 Flammability = 1 Reactivity = 0</li> <li>This product is not a controlled product.</li> </ul>		

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

Date Revised: August 1, 1996 Date Issued : January 11, 1995

## MATERIAL SAFETY DATA SHEET (172)

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	Sharp Electronics (U.K.) Ltd.					
Kingdom	Telephone number for information: 01923-474013					

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	OSHA PEL	ACGIH TLV	Other Limits
Magnetite	1317-61-9	> 94%	Not listed	Not listed	None
Polystyrene	9003-53-6	< 5%	Not listed	Not listed	None
Styrene-butylacrylate -butylmethaacrylate copolymer	29497-14-1		Not listed	Not listed	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m <sup>3</sup>	3.5mg/m <sup>3</sup>	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 : I	nhalation?	Skin?	Ingestion?		
	Yes	No	Possible but very unusual.		
Health Hazards :	Acute oral toxicity	LDL <sub>0</sub> of the ton	er which is included in this developer is over 2	2,000mg/kg.	
	Mutagenicity T	he toner, which is ir	ncluded in this developer has been tested on t	the Ames test.	
	The result is nega	itive.			
Carcinogenicity :	In 1996 the IARC	reevaluated carbor	h black as a Group 2B carcinogen (possible		
human	carcinogen). This	classification is give	en to chemicals for which there is		
inadeq	uate human eviden	ce, but sufficient ani	mal evidence on which to base an opinion of		
carcino	ogenicity. The class	ification is based up	oon the development of lung tumors in rats		
receivi	ng chronic inhalatio	n exposures to free	carbon black at levels that induce		
particle	e overload of the lur	ng. Studies perform	ed in animal models other than rats did		
not sho	not show any association between carbon black and lung tumors. While there have been no studies to				
date us	sing developer, a tv	vo-year cancer bioa	ssay using a typical toner preparation contain	ning carbon	
			he developer mixture) demonstrated no assoc		
		development in rate	· ,		

#### 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

:

Date Revised: August 1, 1996 Date Issued : January 11, 1995

## 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 Us	ed) : Not applicable		
Ignition Temperature	: > 350 <sup>°</sup> C		

ignition remperature	. > 350 C
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: CO <sub>2</sub> , 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 NOx
Hazardous Polymerization	: Will not occur.

## Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Re	espiratory, Eye Protection and Protective Glove):			
Use of a dust mask is recomr	nended when handling a large quantity of toner or during long			
term exposure, as with any no	on-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 InformationNFPA Rating (U.S.A.): Health = 1Flammability = 1Reactivity = 0WHMIS 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

## **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	Sharp Electronics (U.K.) Ltd.	
Kingdom	Telephone number for information: 01923-474013	

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	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	Not listed	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>°</sup>	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 : <u>Inhalation?</u>	<u>Skin?</u>	Ingestion?
Yes	No	Possible but very unusual.
Health Hazards : Acute oral toxicity	· LDL <sub>0</sub> of the tone	er which is included in this developer is over 2,000mg/kg.
Mutagenicity T	he toner, which is ir	ncluded in this developer has been tested on the Ames test
The result is nega	ative.	
Carcinogenicity : In 1996 the IARC	reevaluated carbon	n black as a Group 2B carcinogen (possible
human carcinogen). This	classification is give	en to chemicals for which there is
inadequate human eviden	ce, but sufficient ani	mal evidence on which to base an opinion of
carcinogenicity. The class	sification is based up	pon the development of lung tumors in rats
receiving chronic inhalatio	n exposures to free	carbon black at levels that induce
particle overload of the lui	ng. Studies perform	ed in animal models other than rats did
not show any association	between carbon bla	ck and lung tumors. While there have been no studies to
date using developer, a tw	vo-year cancer bioa	ssay using a typical toner preparation containing carbon
black (a small amount of t	oner is included in th	he developer mixture) demonstrated no association betwee
toner exposure and tumor	development in rate	S.
Signs and Symptoms of Exposure	:	
Minimal irritation to respira	atory tract may occu	Ir as with exposure to any non-toxic dust.

Medical Conditions Generally Aggravated by Exposure : None

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

## 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 Chemica	I Characteristics			
BoilingMelting Point : Not appl	icable	Specific Gravity	: about 5	
Vapor Pressure : Not appl	icable	Solubility in Water	: Negligible	
Vapor Density : Not appl	icable	PH	: Not applicable	
Evaporation Rate : Not appl	icable	Viscosity	: Not applicable	
Appearance : Fine pov		Color	: Black	
Odor : Odorles	3			
Section 7. Fire and Explosic	on Data			
Flash Point (Method Used)	: Not applicable			
Ignition Temperature	: > 350 <sup>°</sup> C			
Flammable Limits	: (LEL); Not applicable	(UEL); Not appl	licable	
Extinguishing Media	: CO <sub>2</sub> , dry chemical, foar	n or water		
Special Fire Fighting Procedure	: None			
Unusual Fire and Explosion Hazard	: This material has no unu	sual fire or explosion ha	azards.	
Sensitivity to Mechanical Impact	: None			
Sensitivity to Static Charge	: None			
Section 8. Reactivity Data				
Stability	: Stable			
Incompatibility (Material to Avoid)	: None			
Hazardous Decomposition	Hazardous Decomposition : CO and NOx			
Hazardous Polymerization : Will not occur.				
Section 9. Precautions for S				
Personal Protection Information (Re				
Use of a dust mask is recomr	<b>a a</b>	e quantity of toner or de	uring long	
term exposure, as with any no				
Engineering Control / Ventilation				
Work / Hygienic Practice	: Inhalation should be minimized as with any non-toxic dust.			
Steps to be taken in case of Spill or		n up with vacuum clear		
Waste Disposal Method	: Waste material may b	•		
	federal, state and loca	al environmental regula	tions.	
Section 10. Regulatory Inform				
NFPA Rating (U.S.A.)			ctivity = 0	
WHMIS Legislation (Canada)				
Transport Information	: This product is not a haz	zardous 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

## **MATERIAL SAFETY DATA SHEET (1/2)**

## Section 1. Product Identification

MSDS No. F-3541

#### 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	Sharp Electronics (U.K.) Ltd.		
Kingdom	Telephone number for information: 01923-474013		

Section 3. Ingredients					
Ingredients	CAS No.	<b>Proportion</b>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	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	25767-47-9	< 2%	Not listed	Not listed	None
Carbon black	1333-86-4	< 0.3%	3.5mg/m <sup>°</sup>	3.5mg/m <sup>³</sup>	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 : I	nhalation?	Skin?	Ingestion?	
	Yes	No	Possible but very unusual.	
Health Hazards :	Acute oral toxicity	LDL <sub>0</sub> of the tone	er which is included in this developer is over 2,000mg/kg.	
	Mutagenicity Th	ne toner, which is in	ncluded in this developer has been tested on the Ames test.	
	The result is negat	ive.		
Carcinogenicity :	In 1996 the IARC	reevaluated carbon	n black as a Group 2B carcinogen (possible	
human	a carcinogen). This c	classification is give	en to chemicals for which there is	
inadeq	uate human evidenc	e, but sufficient anir	mal evidence on which to base an opinion of	
carcino	ogenicity. The classi	fication is based up	con the development of lung tumors in rats	
receivi	ng chronic inhalation	exposures to free	carbon black at levels that induce	
particle	e overload of the lung	g. Studies perform	ed in animal models other than rats did	
not sho	ow any association b	etween carbon bla	ck and lung tumors. While there have been no studies to	
date us	sing developer, a two	o-year cancer bioa	ssay using a typical toner preparation containing carbon	
black (	a small amount of to	ner is included in th	he developer mixture) demonstrated no association between	
toner exposure and tumor development in rats.				
Signs and Symptoms	s of Exposure	:		

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

Medical Conditions Generally Aggravated by Exposure : None

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

## 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.

		cycs with water for 15	minutes.
Section 6. Physical Chemical	Characteristics		
BoilingMelting Point:Not applicVapor Pressure:Not applicVapor Density:Not applicEvaporation Rate:Not applicAppearance:Fine poweOdor:Odorless	cable cable cable cable	Specific Gravity Solubility in Water PH Viscosity Color	: about 5 : Negligible : Not applicable : Not applicable : Black
Section 7. Fire and Explosion	n Data		
Flash Point (Method Used) Ignition Temperature Flammable Limits Extinguishing Media Special Fire Fighting Procedure Unusual Fire and Explosion Hazard Sensitivity to Mechanical Impact Sensitivity to Static Charge	<ul> <li>Not applicable</li> <li>&gt; 350°C</li> <li>(LEL); Not applicable</li> <li>CO<sub>2</sub>, dry chemical, foam</li> <li>None</li> <li>This material has no unus</li> <li>None</li> <li>None</li> <li>None</li> </ul>		
Section 8. Reactivity Data			
Stability Incompatibility (Material to Avoid) Hazardous Decomposition Hazardous Polymerization	: Stable : None : CO and NOx : Will not occur.		
Section 0. Procentions for Se	to Handling and Ha	•	
Section 9. Precautions for Sa Personal Protection Information (Res Use of a dust mask is recommender term exposure, as with any nor Engineering Control / Ventilation Work / Hygienic Practice Steps to be taken in case of Spill or I Waste Disposal Method	<ul> <li>spiratory, Eye Protection a ended when handling a large n-toxic dust.</li> <li>Not required.</li> <li>Inhalation should be minir</li> <li>Leak : Sweep up or clean</li> <li>Waste material may be federal, state and loca</li> </ul>	nd Protective Glove): e quantity of toner or du nized as with any non-t up with vacuum clean e disposed under condi	ring long toxic dust. er. tions which meet all
Section 10. Regulatory Inform			
NFPA Rating (U.S.A.) WHMIS Legislation (Canada)	: Health = 1 Flamma : This product is not a cont	5	tivity = 0

## Section 11. Other Information

**Transport Information** 

UN No.

**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

: This product is not a hazardous material.

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

: None allocated.

#### Date Revised : September 5, 1997 Date Issued :December 26, 1996

MSDS No. F-80731

## **MATERIAL SAFETY DATA SHEET (1/2)**

## 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	Sharp Electronics (U.K.) Ltd.
Kingdom	Telephone number for information: 01923-474013

## **Section 3. Ingredients**

<u></u>					
Ingredients	CAS No.	<b>Proportion</b>	OSHA PEL	ACGIH TLV	Other Limits
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 Haz	ard Data		
Route(s) of Entry : Inhalat	ion? <u>Skin?</u>	Ingestion?	
No	D No	No	
Health Hazards : Acute est	imated $LD_{50}$ is over 5,000mg/kg.		
Carcinogenicity : <u>NTP</u>	<u>IARC Monographs?</u>	OSHA Regulated?	
No	No	No	
Signs and Symptoms of Ex	posure:		
Eye contact:	Transient weak irritation.		
Skin contact:	Skin contact: Almost a non-irritant.		
Inhalation:	Essentially non-toxic.		
Medical Conditions General	Ily Aggravated by Exposure : No ini	formation available	
Emergency and First Aid Pr		towel and wash expected area with seen and wa	10.0

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 dor at least 15 minutes.

#### Date Revised: September 5, 1997 Date Issued : December 26, 1996

MSDS No. F-80731

: 0.97-0.98 (H<sub>2</sub>O = 1)

Not applicable

: No data is available

: Negligible

: Colorless

## **MATERIAL SAFETY DATA SHEET (2/2)**

Specific Gravity

PH

Color

Viscosity

Solubility in Water

## Section 6. Physical Chemical Characteristics

<b>Boiling/Melting Point</b>	:	Not applicable
Vapor Pressure	:	Not applicable
Vapor Density	:	Not applicable
Evaporation Rate	:	Not applicable
Appearance	:	Transparent fluid
Odor	:	Odorless

## Section 7. Fire and Explosion Data

Flash Point (Method Used)	: > 315 <sup>0</sup> C
Ignition Temperature	: No information is available.
Flammable Limits	: No information is available.
Extinguishing Media	: CO <sub>2</sub> , 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 <sub>2</sub> , CO <sub>2</sub> , and traces of incompletely burned carbon products.

## Section 9. Precautions for Safe Handling and Use

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

: Will not occur.

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	1
NFPA Rating (U.S.A.):	No information is available.
WHMIS Legislation (Canada) Transport Information UN No.	<ul><li>This product is not a controlled product.</li><li>This product is not a hazardous material.</li><li>None allocated.</li></ul>

## Section 11.

**Hazardous Polymerization** 

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