

SHARP®

Material Safety Data Sheets FO Series Corporate Facsimile

June 2001

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S H A R P

Date Revised: August 15, 1997
Date Issued: November 11, 1992

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-1001

Section 1. Product Identification

Product :

FO-48ND, FO-34ND (Black Developer)

Section 2. Supplier's Name and Address

Sharp Corporation

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

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

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

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Ferrite		> 96%			
Iron oxide	1309-37-1		Not listed	Not listed	None
Zinc oxide	1314-13-2		Not listed	Not listed	None
Copper oxide	1317-38-0		Not listed	Not listed	None
Styrene-Acrylate copolymer	27136-15-8	< 4%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	< 0.4%	3.5mg/m ₃	3.5mg/m ₃	None

Section 4. Hazardous Identification (Emergency Overview)

Developer is a fine, black powder possessing no immediate hazard. It is nonflammable, but when suspended in the air, is combustible. There are no significant health effects associated with this material.

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : No data available.

Carcinogenicity : In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. While there have been no studies to date using developer, a two-year cancer bioassay using a typical toner preparation containing carbon black (a small amount of toner is included in the developer mixture) demonstrated no association between toner exposure and tumor development in rats.

Signs and Symptoms of Exposure :

Eye: May cause irritation or corneal injury due to mechanical action.

Skin: Essentially nonirritating to skin.

Inhalation: 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: August 15, 1997
Date Issued : November 13, 1995

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-1004

Section 1. Product Identification

Product :

FO-26ND, FO-26DC (Black Toner)

Section 2. Supplier's Name and Address

Sharp Corporation

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

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

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

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Styrene-Acrylate copolymer	25767-47-9	89.0%	Not listed	Not listed	None
Carbon black	1333-86-4	4.0%	3.5mg/m	3.5mg/m	None
Organic pigment		2.0%	Not listed	Not listed	None
	109125-51-1				
	109125-50-0	(Total for all)			
	84179-66-8				
Polypropylene	25085-53-4	1.5%	Not listed	Not listed	None
Polyethylene	9002-88-4	1.5%	Not listed	Not listed	None
Silica	68909-20-6	1.0%	80mg/m	6.0mg/m	None
Iron oxide	1317-61-9	1.0%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

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

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : This material has been tested for "Acute Oral Toxicity" and under the "Ames Test". It does not represent a health hazard.

Carcinogenicity : In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

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

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Date Revised: August 15, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-1012

Section 1. Product Identification**Product :**

FO-52NT, FO33NT, UX-21NT (Black Toner)

Section 2. Supplier's Name and Address

Sharp Corporation

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

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

(Country)

(Name and Telephone Number)

U.S.A.

Sharp Electronics Corporation

Telephone number for information: 1-800-237-4277

Emergency telephone number : 1-800-255-3924

Canada

Sharp Electronics of Canada Ltd.

Telephone number for information: 905-890-2100

Emergency telephone number : 1-800-255-3924

United

Sharp Electronics (U.K.) Ltd.

Kingdom

Telephone number for information: 01923-474013

Section 3. Ingredients

<u>Ingredients</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other Limits</u>
Magnetite	1317-61-9	32.0%	Not listed	Not listed	None
Styrene acrylate copolymer	25153-46-2	63.5%	Not listed	Not listed	None
Polypropylene	25085-53-4	3.0%	Not listed	Not listed	None
Metal complex of hydrobenzene compound	72869-85-3	1.5%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Toner is a fine, black powder possessing no immediate hazard.

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

Yes

No

Skin?Ingestion?
Possible but very unusual.**Health Hazards :**Acute oral toxicity --- LDL_0 of this toner is over 5,000mg/kg.

toxicity

No dermal irritant reactions are elicited in any of the rabbits. No acute inhalation

reactions are elicited in any of the rats.

Mutagenicity --- The result of the Ames test is negative.

Carcinogenicity : NTP?

No

IARC Monographs?

No

OSHA Regulated?

No

Signs and Symptoms of Exposure :

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

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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-1015

Section 1. Product Identification

Product :

UX-27CC/FO-25CC/UINK-2011AXZZ (Color Print Cartridge)

Section 2. Supplier's Name and Address

Sharp Corporation

22-22 Nagaïke-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

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Tetraethylene glycol	112-60-7	6 - 12%	Not listed	Not listed	None
Hydroxylated alkane (NJ TSNR 800100451-5004-P)		4 - 9%	Not listed	Not listed	None
Magenta dye (NJ TSNR 80100451-5005-P)		1 - 3%	Not listed	Not listed	None
Cyan dye (NJ TSNR 80100451-5006-P)		for applicable	Not listed	Not listed	None
Yellow dye (NJ TSNR 800100451-5007-P)		dye chemical	Not listed	Not listed	None
Water	7732-18-5	Balance	-	-	-

Section 4. Hazardous Identification (Emergency Overview)

When used as intended according to instructions, no adverse short term or long-term effects are expected to occur.

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation?

Possible, but unlikely

Skin?

Yes

Ingestion?

Yes

Health Hazards : This material does not represent a health hazard.
Acute oral toxicity --- LD₅₀ of this ink is over 2,500mg/kg.

Carcinogenicity : Not listed as a carcinogen or potential carcinogen

Chronic Effect : No adverse chronic effects are known.

Signs and Symptoms of Exposure : Ink stains on skin or mucus membranes such as the mouth, eyes and nose which may cause discomfort.

Medical Conditions Generally Aggravated by Exposure : None

Emergency and First Aid Procedures

Inhalation --- If mist is inhaled, respiratory tract irritation may occur. Remove person to fresh air and, if breathing difficulty occurs, consult medical personnel.

Ingestion --- Rinse out mouth with plenty of water. Dilute stomach contents with a small glass of water or milk.

Skin --- Remove contaminated clothing. Wash with soap and water. If irritation develops and persists, consult medical personnel.

Eye --- Immediately flush eyes with water for at least 15 minutes. If irritation develops and persists, consult medical personnel.

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. B-1015

Section 6. Physical Chemical Characteristics

Boiling Point	: 206°C	Specific Gravity	: 1.03 (H ₂ O = 1)
Vapor Pressure	: <0.1 psi (excluding water)	Solubility in Water	: Water soluble
Vapor Density	: Not available	PH	: 8.5 - 8.8
Evaporation Rate	: 1.1-1.2 ug/s	Viscosity	: Not available
Appearance	: Liquid	Color	: Magenta/Cyan/Yellow
Odor	: Faint odor		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: >210°F
Ignition Temperature	: Autoignition >600°F
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: Dry chemical, carbon dioxide, foam or water
Special Fire Fighting Procedure	: Avoid inhalation of smoke. Wear self contained breathing apparatus and full protective gear if a large amount of the material is involved.
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	: Products of combustion are oxides of carbon, organic acids, and low molecular weight organics. Avoid inhalation of the smoke.
Hazardous Polymerization	: Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove)	: None required
Engineering Control / Ventilation	: Mechanical room ventilation is recommended.
Work / Hygienic Practice	: Inhalation should be minimized as with any non-toxic dust.

Steps to be taken in case of Spill or Leak : Absorb small ink spills with a cloth or paper towels and place in a container for disposal. For large spills, dike around spill with absorbant material and transfer diking material to suitable disposal container. Ventilate and wash area with water after removal of material. Keep waste from sewers, watershed, and waterways.

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 is available
WHMIS Legislation (Canada)	: No data is available.
Transport Information	: No data is available
UN No.	: No data is available

Section 11. Other Information

Some information presented is based on data gathered for the ingredients. 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 responsibilities 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.

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-1017

Section 1. Product Identification**Product :**

UX-22BC/FO-21BC/UINK-2010AXZZ (Black Print 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

Section 3. Ingredients

<u>Ingredients</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other Limits</u>
Black dye (NJ TSNR 80100451-5009)		1 - 3%	Not listed	Not listed	None
Black dye (NJ TSNR 80100451-5010)		(TOTAL OF BOTH)	Not listed ₃	Not listed ₃	None
Glycerol	56-82-5	2 - 7%	15mg/m ³	10mg/m ³	None
Organic solvent (NJ TSNR 80100451-5013)		1 - 2%	Not listed	Not listed ₃	None
Triethanolamine	102-71-6	0.5 - 1%	Not listed	5mg/m ³	None
Water		Balance	-	-	-

Section 4. Hazardous Identification (Emergency Overview)

When used as intended according to instructions, no adverse short term or long-term effects are expected to occur.

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

Possible, but unlikely

Skin?

Yes

Ingestion?

Yes

Health Hazards : This material does not represent a health hazard.
Acute oral toxicity --- LD₅₀ of this ink is over 5,000mg/kg.

Carcinogenicity : Not listed as a carcinogen or potential carcinogen**Chronic Effect :** Ink is not expected to be chronically toxic.**Signs and Symptoms of Exposure :** Ink stains on skin or mucus membranes such as the mouth, eyes and nose which may cause discomfort.**Medical Conditions Generally Aggravated by Exposure :** None known at levels of intended use of the ink.**Emergency and First Aid Procedures :**

Inhalation --- If mist is inhaled, respiratory tract irritation may occur. Remove person to fresh air and, if breathing difficulty occurs, consult medical personnel.

Ingestion --- Rinse out mouth with plenty of water. Dilute stomach contents with a small glass of water or milk. Do not induce vomiting unless instructed by a physician.

Skin --- Remove contaminated clothing. Wash with soap and water. If irritation develops and persists, consult medical personnel.

Eye --- Immediately flush eyes with water for at least 15 minutes. If irritation develops and persists, consult medical personnel.

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. B-1017

Section 6. Physical Chemical Characteristics

Boiling Point	: 97°C	Odor	: Faint odor
Melting Point	: 1°C	Specific Gravity	: 1.03 (H ₂ O = 1)
Vapor Pressure	: Not applicable	Solubility in Water	: Fully Miscible
Vapor Density	: 1 (Air =1)	PH	: 8.55 - 8.85
Evaporation Rate	: 3	Viscosity	: 1.15-1.27 CentiStokes
Appearance	: Liquid	Color	: Black

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable.
Ignition Temperature	: Not applicable.
Flammable Limits	: (LEL): Not applicable. (UEL): Not applicable.
Extinguishing Media	: Dry chemical, carbon dioxide, foam or water
Special Fire Fighting Procedure	: Avoid inhalation of smoke. Wear NIOSH approved self contained breathing apparatus and full protective gear if a large amount of the material is involved.
Unusual Fire and Explosion Hazard	: No unusual fire or explosive hazards are known for this product.
Sensitivity to Mechanical Impact	: None.
Sensitivity to Static Charge	: No data

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: Products of combustion are oxides of carbon, acid gasses, and low molecular weight organics. Avoid inhalation of the smoke.
Hazardous Polymerization	: Will not occur.

Section 9. Precautions for Safe Handling and Use

Personal Protection Information (Respiratory, Eye Protection and Protective Glove):	None required
Engineering Control / Ventilation	: Mechanical room ventilation is recommended.
Work / Hygienic Practice	: Contact should be minimized as with any non-toxic substance.

Steps to be taken in case of Spill or Leak : Absorb small ink spills with a cloth or paper towels and place in a container for disposal. For large spills, dike around spill with absorbant material and transfer diking material to suitable disposal container. Ventilate and wash area with water after removal of material. Keep waste from sewers, watershed, and waterways.

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 is available.
WHMIS Legislation (Canada)	: Not regulated under WHMIS.
Transport Information	: Not regulated.
UN No.	: No data is available.

Section 11. Other Information

KEEP OUT OF REACH OF CHILDREN. Material should be stored in a cool, dry place. 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 responsibilities 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.

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-1020

Section 1. Product Identification**Product :** FO-47ND (Toner Cartridge)**Section 2. Supplier's Name and Address**

Sharp Corporation

22-22 Nagaïke-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

Section 3. Ingredients

<u>Ingredients</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other Limits</u>
Polyester resin (NJ TSRN 361615-5042-P)		> 90%	Not listed ₃	Not listed ₃	None
Carbon black	1333-86-4	> 9%	3.5mg/m ³	3.5mg/m ³	None
Polyolefin wax	9003-07-0	(1-5%	Not listed	Not listed	None
Polyolefin wax	25722-45-6	for both)	Not listed	Not listed	None
Organic pigment NJ TSRN 361615-5025-P)		1 - 5%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

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

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

Yes

Skin?

Yes

Ingestion?

Yes

Health Hazards : All data is from tests performed on products with similar ingredients.Inhalation: LC₅₀ > .74 g/m³/4h (Highest attainable concentration)Ingestion: LD₅₀ > 5,000mg/kg.

Eye: Not an eye irritant

Skin: Not a skin irritant

Skin sensitizer: No data available.

Mutagenicity: The result of Ames test is negative.

Carcinogenicity : In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human evidence, carcinogen). This classification is given to chemicals for which there is inadequate human but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

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

Signs and Symptoms of Exposure :

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

Medical Conditions Generally Aggravated by Exposure : None**Emergency and First Aid Procedures :**

Inhalation --- Remove person to fresh air and, if breathing difficulty occurs, consult medical personnel.

Ingestion --- If irritation or discomfort occurs, consult medical personnel immediately.

Skin --- Flush gently with soap and lukewarm, flowing water for 15 minutes If irritation

develops, consult medical personnel.

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. B-1020

Emergency and First Aid Procedures (continued) :

Eyes --- Do not allow victim to rub eyes. Flush gently with flowing water for at least 15 minutes or until particles are removed. Have victim look right, left, and then up and down. If irritation develops, consult medical personnel. **DO NOT attempt to manually remove anything stuck to the eyes.**

Section 6. Physical Chemical Characteristics

Boiling Point	: Not applicable	Odor	: Faint odor
Melting Point	: No data available	Specific Gravity	: 1.2
Vapor Pressure	: Not applicable	Solubility in Water	: Negligible
Vapor Density	: Not applicable	PH	: Not applicable
Evaporation Rate	: Not applicable	Viscosity	: Not applicable
Appearance	: Powder	Color	: Black

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable.
Ignition Temperature	: 450°C. (based on data from a similar product)
Flammable Limits	: (LEL): Not applicable. (UEL): Not applicable.
Extinguishing Media	: CO ₂ , dry chemical, foam or water
Special Fire Fighting Procedure	: None.
Unusual Fire and Explosion Hazard	: If dispersed into the air, it may form an explosive mixture like most finely divided organic powders.
Sensitivity to Mechanical Impact	: No data available.
Sensitivity to Static Charge	: No data available.

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: Oxidizing materials.
Hazardous Decomposition	: CO, CO ₂ .
Hazardous Polymerization	: No data available.

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

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

Engineering Control / Ventilation	: Not required.
Work / Hygienic Practice	: Inhalation should be minimized as with any non-toxic dust.
Steps to be taken in case of Spill or Leak	: Sweep up or clean up with vacuum cleaner.
Waste Disposal Method	: Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

NFPA Rating (U.S.A.)	: Health = 1	Flammability = 1	Reactivity = 0
WHMIS Legislation (Canada)	: Not applicable.		
Transport Information	: None.		
UN No.	: None.		

Section 11. Other Information

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

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-2001

Section 1. Product Identification

Product :

FO-34ND, FO-48ND (Black Toner)

Section 2. Supplier's Name and Address

Sharp Corporation

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

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

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

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	> 9%	3.5mg/m	3.5mg/m	None
Styrene-Acrylate copolymer	27136-15-8	> 86%	Not listed	Not listed	None
Polypropylene	25085-53-4	> 3%	Not listed	Not listed	None
Organic pigment	31714-55-3	< 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 :	<u>Inhalation?</u>	<u>Skin?</u>	<u>Ingestion?</u>
	Yes	No	Possible but very unusual.

Health Hazards : No data available.

Carcinogenicity : In 1996 the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats.

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

Signs and Symptoms of Exposure :

Eyes: May cause irritation or corneal injury due to mechanical action

Skin: Essentially nonirritating to the skin

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

Medical Conditions Generally Aggravated by Exposure : No data available

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Section 5. Health Hazard Data (Continued)

Emergency and First Aid Procedures :

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

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

Section 6. Physical Chemical Characteristics

Boiling/Melting 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)	: No data available
Ignition Temperature	: No data available
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: Water fog, foam, CO ₂ , dry chemicals
Special Fire Fighting Procedure	: Wear breathing apparatus in situations where large quantities are being burned.
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, it is sensitive to static charges and combustible

Section 8. Reactivity Data

Stability	: Stable
Incompatibility (Material to Avoid)	: None
Hazardous Decomposition	: 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	: Good general ventilation should be sufficient for most conditions.
Work / Hygienic Practice	: Inhalation should be minimized as with any non-toxic dust.
Steps to be taken in case of Spill or Leak	: Sweep up or clean up with vacuum cleaner.
Waste Disposal Method	: Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.

Section 10. Regulatory Information

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

Section 11. Other Information

References : IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261
 H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. *Fundamental and Applied Toxicology* 2 97, pp. 280