



Material Safety Data Sheets
UX Series
SOHO Facsimile

June 2001

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MATERIAL SAFETY DATA SHEET (1/2)

MSDS No. B-1003

Section 1. Product Identification

Product :

FO-35TD, FO-32TD, UX-30TD (Toner Imaging Cartridge)

Section 2. Supplier's Name and Address

Sharp Corporation

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

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

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

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Polyester Resin (NJ TSRN 361615-5042-P)		> 88%	Not listed	Not listed	None
Carbon black	1333-86-4	< 5%	3.5mg/m ³	3.5mg/m ³	None
Organic pigment (NJ TSRN 361615-5025-P)		< 3%	Not listed	Not listed	None
Polypropylene	25085-53-4	< 3%	Not listed	Not listed	None
Amorphous silica	7631-86-9	< 1%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

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

Section 5. Health Hazard Data

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

Health Hazards : This material does not represent a health hazard.

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

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

Signs and Symptoms of Exposure :

Minimal irritation to respiratory tract may occur as with exposure to any non-toxic dust. May cause coughing and raise phlegm

Medical Conditions Generally Aggravated by Exposure : None

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. B-1003

Section 5. Health Hazard Data (Continued)**Emergency and First Aid Procedures :**

- Inhalation --- Remove to fresh air. Wash nostrils and rinse out mouth. If effects occur, consult medical personnel.
- Ingestion --- Dilute stomach contents with several glasses of water.
- Skin --- Wash with soap and water.
- Eye --- In case of contact, immediately flush eyes with water for 15 minutes.

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Softening point: 120-130°C*	Specific Gravity	: 1.1
Vapor Pressure	: Not applicable	Solubility in Water	: Negligible
Vapor Density	: Not applicable	PH	: 6-7
Evaporation Rate	: Not applicable	Viscosity	: Not applicable
Appearance	: Fine powder	Color	: Black
Odor	: Faint odor		

Section 7. Fire and Explosion Data

Flash Point (Method Used)	: Not applicable
Ignition Temperature	: 450°C*
Flammable Limits	: (LEL); Not applicable (UEL); Not applicable
Extinguishing Media	: Dry chemical, foam or water
Special Fire Fighting Procedure	: Avoid inhalation of smoke. Wear self contained breathing apparatus and full protective gear.
Unusual Fire and Explosion Hazard	: If dispersed in air, toner, like most fine, organic powders, may form an explosive mixture.
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	: Products of combustion are toxic. 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):**

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

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

Section 10. Regulatory Information

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

Section 11. Other Information

References : IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261

H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299

* Information is based on data gathered for other toner products with the same or similar ingredients.

S H A R P

Date Revised: August 15, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (1/2)

MSDS No.B-1011

Section 1. Product Identification**Product :**

FO-52ND, FO-33ND, UX-21ND (Black Developer)

Section 2. Supplier's Name and Address

Sharp Corporation

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

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

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

Section 3. Ingredients

<u>Ingredients</u>	<u>CAS No.</u>	<u>Proportion</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Other Limits</u>
Magnetite	1317-61-9	79.60%	Not listed	Not listed	None
Styrene acrylate copolymer	25153-46-2	19.05%	Not listed	Not listed	None
Polypropylene	25085-53-4	0.90%	Not listed	Not listed	None
Metal complex of hydrobenzene compound	72869-85-3	0.45%	Not listed	Not listed	None

Section 4. Hazardous Identification (Emergency Overview)

Developer is a black powder possessing no immediate hazard.

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

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this developer in an acute oral toxicity test is over 5.0g./kg. No dermal irritant reactions are elicited in any of the rabbits. No acute oral toxicity reactions are elicited in any of the rats.

Mutagenicity --- This developer has been tested on the Ames test. The result 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.

S H A R P

Date Revised: August 15, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. B-1011

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	: 2.95
Vapor Pressure	: Not applicable	Solubility in Water	: Negligible
Vapor Density	: Not applicable	PH	: Not applicable
Evaporation Rate	: Not applicable	Viscosity	: Not applicable
Appearance	: Fine powder	Color	: Black
Odor	: Odorless		

Section 7. Fire and Explosion Data

Flash Point (Method Used) : Not applicable
Ignition Temperature : Not applicable
Flammable Limits : (LEL); Not applicable (UEL); Not applicable
Extinguishing Media : CO₂, dry chemical, foam or water
Special Fire Fighting Procedure : Wear self contained breathing apparatus and full protective gear
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, CO₂, and NO_x
Hazardous Polymerization : Will not occur.

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

Use of a dust mask is recommended when handling a large quantity of developer 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 information.
WHMIS Legislation (Canada) : No information.
Transport Information : No information.
UN No. : No information.

Section 11. Other Information

None

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

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LDL_0 of this toner is over 5,000mg/kg.
No dermal irritant reactions are elicited in any of the rabbits. No acute inhalation toxicity

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.

S H A R P

Date Revised: August 15, 1997

Date Issued : July 20, 1995

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. B-1012

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

Specific Gravity : 1.47
Solubility in Water : Negligible
PH : Not applicable
Viscosity : Not applicable
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** : CO₂, dry chemical, foam or water**Special Fire Fighting Procedure** : Wear self contained breathing apparatus and full protective gear.**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, CO₂, and NO_x**Hazardous Polymerization** : Will not occur.**Section 9. Precautions for Safe Handling and Use****Personal Protection Information (Respiratory, Eye Protection and Protective Glove):**

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

Engineering Control / Ventilation : Not required.**Work / Hygienic Practice** : Inhalation should be minimized as with any non-toxic dust.**Steps to be taken in case of Spill or Leak** : Sweep up or clean up with vacuum cleaner.**Waste Disposal Method** : Waste material may be disposed under conditions which meet all federal, state and local environmental regulations.**Section 10. Regulatory Information****NFPA Rating (U.S.A.)** : No information.**WHMIS Legislation (Canada)** : No information.**Transport Information** : No information.**UN No.** : No information.**Section 11. Other Information**

None

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 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>
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

<u>Route(s) of Entry</u> : <u>Inhalation?</u>	<u>Skin?</u>	<u>Ingestion?</u>
Possible, but unlikely	Yes	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

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Black dye (NJ TSRN 80100451-5009)		1 - 3%	Not listed	Not listed	None
Black dye (NJ TSRN 80100451-5010)		(TOTAL OF BOTH)	Not listed	Not listed	None
Glycerol	56-82-5	2 - 7%	15mg/m ³	10mg/m ³	None
Organic solvent (NJ TSRN 80100451-5013)		1 - 2%	Not listed	Not listed	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 ^o C	Odor	: Faint odor
Melting Point	: 1 ^o 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 stroed 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. P-00081

Section 1. Product Identification

Product :

UX-36ND (Black Toner)

Section 2. Supplier's Name and Address

Sharp Corporation

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

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

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

Section 3. Ingredients

Ingredients	CAS No.	Proportion	OSHA PEL	ACGIH TLV	Other Limits
Carbon black	1333-86-4	4.0%	3.5mg/m ³	3.5mg/m ³	None
Silica	68909-20-6	1.0%	80.0mg/m ³	6.0mg/m ³	None
Iron oxide	1317-61-9	1.0%	5.0mg/m ³	10.0mg/m ³	None
Styrene-Acrylate copolymer	25767-47-9	90.5%	Not listed	Not listed	None
Organic pigment mixture		0.5%	Not listed	Not listed	None
	109125-51-1				
	109125-50-0	(total for the pigment mixture)			
	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

Section 4. Hazardous Identification (Emergency Overview)

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

Section 5. Health Hazard Data

Route(s) of Entry : Inhalation?

Yes

Skin?

No

Ingestion?

Possible but very unusual.

Health Hazards : Acute oral toxicity --- LD50 of this toner is over 2000mg./kg.
Mutagenicity --- The result of Ames test is negative.

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

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

MATERIAL SAFETY DATA SHEET (2/2)

MSDS No. P-00081

Section 5. Health Hazard Data (Continued)

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 to fresh air. If effects occur, consult medical personnel.

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

Section 6. Physical Chemical Characteristics

BoilingMelting Point	: Not applicable	Specific Gravity	: 1.1
Vapor Pressure	: Not applicable	Solubility in Water	: Negligible
Vapor Density	: Not applicable	PH	: Not applicable
Evaporation Rate	: Not applicable	Viscosity	: Not applicable
Appearance	: Fine powder	Color	: Black
Odor	: Odorless		

Section 7. Fire and Explosion Data

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

Section 8. Reactivity Data

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

Section 9. Precautions for Safe Handling and Use

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

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

Engineering Control / Ventilation : Not required.

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

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

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

Section 10. Regulatory Information

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

Section 11. Other Information

References : IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol. 65, Printing Process and Printing inks, Carbon Black and Some Nitro Compounds, Lyon, pp-149-261

H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie,

P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic

Inhalation Exposure in Rats. Fundamental and Applied Toxicology 17, pp. 280-299