Material Safety Data Sheet

May be used to comply with

OSHA's Hazard Communication Standard,

29 CFR 1910.1200. Standard must be

consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration

(Non-Mandatory Form)

Form Approved

OMB No.1218-0072

IDENTITY(As Used on Label and List)	Note :Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.
PFPE1074ZA, PFPE1075ZA, KX-FA55	

Section I

Manufacturer's Name DAI NIPPON PRINTING CO.,LTD.	Emergency Telephone Number +81-42-952-9666
Address: 591-2, Kamihirose, Higashikubo, Sayama, Saitama, 350-1321 JAPAN	Telephone Number for information +81-42-952-9666
	Date prepared February 3, 2000
	Signature of Preparer (optional) Hideichiro Takeda. Hideichiro Takeda / Mgr. of Technical Dept.

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	%(optional)
Polyethylene terephthalate film (CAS No. 25038-59-9)				(46~ 53%)
Coating layer substances				
Carbon Black (CAS No. 1333-86-4)	3.5mg/m3	3.5mg/m3	None	(8~ 11%)
Ester Wax (CAS No. 8015-86-9)	-	-	None	(2~ 6%)
Paraffin Wax (CAS No. 8002-74-2)	-	2.0mg/m3	None	(26~ 34%)
Ethylene Vinil Acetete Copolymer (CAS No. 24937-78-8)	-	-	None	(2~ 7%)
Others	-	-	None	(2~9%)

Section III - Physical/Chemical Characteristic

Boiling Point	Not applicable	Specific Gravity (H2O=1)	About 1.2
Vapor Pressure (mmHg)	Not applicable	Melting Point	66℃
Vapor Density (AIR = 1)	Not applicable	Evaporation Rate (Butyl Acetate=1)	Negligible

Solubility in water

Negligible

Appearance and Odor

Ink is black solid with slight odor.

Section IV - Fire and Explosion Hazard Data

Flash point (Method Used)	Flammable Limits	LEL	UEL
About 250℃ for ink	Not applicable	Not applicable	Not applicable

Extinguishing Media

CO2, Water, Dry Chemicals, Foam

Special Fire fighting Procedures

For large quantities (i.e. truckload or pallet) involved in a fire, firefighters should wear self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards

None

Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid None
	Stable	○	

Incompatibility (Materials to Avoid)
None

Hazardous Decomposition or Byproducts
CO,CO2,NOX and H2O etc.

Hazardous Polymerization	May Occur		Conditions to Avoid None
	Will Not Occur	○	

Section VI - Health Hazard Data

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

Health Hazards(Acute and Chronic)
All the ingredients are negative mutagenic(Test species ;S. typhimurium)

Carcinogenicity:	NTP?	IARC Monographs?	OSHA Regulated?
	No	Carbon Black : Group 2B	No

In 1996 the International Agency for Research on Cancer (IARC) reevaluated carbon black as a group 2B carcinogen (possible human carcinogen) ,based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black. The effects were observed only in animals exposed to high concentrations of carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats have not demonstrated an 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.
Epidemiology studies of workers in the carbon black producing industries of North America and Western Europe do not demonstrate an association between carbon black and cancer, even in high exposure occupational settings. In addition, in its reevaluation of carbon black, IARC concluded that "there is inadequate evidence in humans for the carcinogenicity of carbon black. "Chronic over exposure to many dusts, including carbon black dust, may result in respiratory tract irritation and slight changes in lung function.

Signs and Symptoms of Exposure
None

Medical Conditions
Generally Aggravated by Exposure None

Emergency and First Aid Procedures
Not applicable

Section VII - Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled
Rumpling the product may cause the wax layer to peel off. Sweep up or vacuum. When sweeping , avoid raising film or dust. If a vacuum is used , motor should be rated as dust tight. Wash any residue off skin with soap and water. Garments may be wasted or dry cleaned after removal of loose film or dust.

Waste Disposal Method
Dispose by the same method of ordinary plastic products in accordance with all applicable regulations. Any disposal practice must be in compliance with local, state and federal laws and regulations. If necessary, contact government office and ensure conformity with disposal regulations.

Precautions to Be Taken in Handling and Storing.
No special precautions for safety reason.

Other Precautions
None

Section VIII - Control Measures

Respiratory Protection (Specify Type)
Not required

Ventilation	Local Exhaust No	Special No
	Mechanical(General) No	Other No

Protective Gloves Not required	Eye Protection Not required

Other Protective Clothing or Equipment
None

Work/Hygienic Practices
None

(Reproduce locally)

OSHA174, Sept.1985
February 3, 2000