

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)

DC3-605-001

GREEN RIBBON-350M

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.

Section I

Manufacturer's Name

DAI NIPPON PRINTING CO.,LTD.

Emergency Telephone Number

04-2952-9666

Address:

2-5-1, Hirosedai, Sayama,
Saitama, 350-1328
JAPAN

Telephone Number for information

04-2952-9666

Date prepared January 5, 2012

Signature of Preparer (optional)

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)	---	---	---	(75~84%)
Coating layer substances				
Carbon Black (CAS No.1333-86-4)	---	---	---	(1~2.5%)
Pigment Blue (Trade secret)	---	---	---	(3~6.5%)
Pigment Yellow (Trade secret)	---	---	---	(3~6.5%)
Synthetic resin (Trade secret)	---	---	---	(9~14%)
Others	---	---	---	(1~2.5%)

Section III - Physical / Chemical Characteristic

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

Solubility in water

Negligible

Appearance and Odor

Ink is green solid with slight odor.

Section IV - Fire and Explosion Hazard Data

Flash point (Method Used)	Flammable Limits	LEL	UEL
Not applicable	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	<input type="radio"/>	

Incompatibility (Materials to Avoid)

Strong acids and strong oxidizing agent.

Hazardous Decomposition or Byproducts

CO, CO₂, NO_x and H₂O etc.

Hazardous Polymerization	May Occur		Conditions to Avoid None
	Will Not Occur	<input type="radio"/>	

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	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

Not applicable

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)

OSHA 174, Sept. 1985

January 5, 2012

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OMB No.1218-0072

IDENTITY(As Used on Label and List)

DC3-606-001

BLUE RIBBON-350M

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.

Section I

Manufacturer's Name

DAI NIPPON PRINTING CO.,LTD.

Emergency Telephone Number

04-2952-9666

Address:

2-5-1, Hirose-dai, Sayama,

Saitama, 350-1328

JAPAN

Telephone Number for information

04-2952-9666

Date prepared January 5, 2012

Signature of Preparer (optional)

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)	---	---	---	(76~84%)

Coating layer substances

Pigment Blue (Trade secret)	---	---	---	(4~6.6%)
Synthetic resin (Trade secret)	---	---	---	(11.5~14%)
Others	---	---	---	(1~4%)

Section III - Physical / Chemical Characteristic

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

Solubility in water

Negligible

Appearance and Odor

Ink is blue solid with slight odor.

Section IV - Fire and Explosion Hazard Data

Flash point (Method Used)	Flammable Limits	LEL	UEL
Not applicable	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	<input type="radio"/>	

Incompatibility (Materials to Avoid)

Strong acids and strong oxidizing agent.

Hazardous Decomposition or Byproducts

CO, CO₂, NO_x and H₂O etc.

Hazardous Polymerization	May Occur		Conditions to Avoid None
	Will Not Occur	<input type="radio"/>	

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? No	Skin? No	Ingestion? possible but very unusual.
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Health Hazards(Acute and Chronic)

All the ingredients are negative mutagenic(Test species ;S. typhimurium)

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

Not applicable

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

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January 5, 2012

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IDENTITY(As Used on Label and List)

DC3-607-001

ORANGE RIBBON-350M

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Section I

Manufacturer's Name

DAI NIPPON PRINTING CO.,LTD.

Emergency Telephone Number

04-2952-9666

Address:

2-5-1, Hirosedai, Sayama,

Saitama, 350-1328

JAPAN

Telephone Number for information

04-2952-9666

Date prepared January 5, 2012

Signature of Preparer (optional)

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)	---	---	---	(78~86%)
Coating layer substances				
Pigment Red (Trade secret)	---	---	---	(1.5~2.5%)
Pigment Orange(Trade secret)	---	---	---	(4~7%)
Synthetic resin (Trade secret)	---	---	---	(9~13%)
Others	---	---	---	(1~4%)

Section III - Physical / Chemical Characteristic

Boiling Point	Not applicable	Specific Gravity (H2O=1)	About 1.2
Vapor Pressure (mmHg)	Not applicable	Melting Point	Not applicable
Vapor Density (AIR = 1)	Not applicable	Evaporation Rate (Butyl Acetate=1)	Negligible
Solubility in water	Negligible		
Appearance and Odor	Ink is orange solid with slight odor.		

Section IV - Fire and Explosion Hazard Data

Flash point (Method Used)	Flammable Limits	LEL	UEL
Not applicable	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	<input type="radio"/>	Conditions to Avoid None
	Stable		

Incompatibility (Materials to Avoid)

Strong acids and strong oxidizing agent.

Hazardous Decomposition or Byproducts

CO,CO2,NOX and H2O etc.

Hazardous Polymerization	May Occur	<input type="radio"/>	Conditions to Avoid None
	Will Not Occur		

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? No	Skin? No	Ingestion? possible but very unusual.
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Health Hazards(Acute and Chronic)

All the ingredients are negative mutagenic(Test species ;S. typhimurium)

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

Not applicable

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

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OSHA 174,Sept. 1985

January 5, 2012

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OMB No.1218-0072

IDENTITY(As Used on Label and List)

DC3-611-001

GRAY RIBBON-350M

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Section I

Manufacturer's Name

DAI NIPPON PRINTING CO.,LTD.

Emergency Telephone Number

04-2952-9666

Address:

2-5-1, Hirosedai, Sayama,
Saitama, 350-1328
JAPAN

Telephone Number for information

04-2952-9666

Date prepared January 5, 2012

Signature of Preparer (optional)

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)	---	---	---	(72~81%)
Coating layer substances				
Carbon Black (CAS No.1333-86-4)	---	---	---	(0.3~0.5%)
Inorganic Pigment (Trade secret)	---	---	---	(9~13%)
Synthetic resin (Trade secret)	---	---	---	(6~9%)
Others	---	---	---	(4~5.5%)

Section III – Physical / Chemical Characteristic

Boiling Point	Not applicable	Specific Gravity (H2O=1)	About 1.2
Vapor Pressure (mmHg)	Not applicable	Melting Point	Not applicable
Vapor Density (AIR = 1)	Not applicable	Evaporation Rate (Butyl Acetate=1)	Negligible
Solubility in water			
Negligible			
Appearance and Odor			
Ink is gray solid with slight odor.			

Section IV - Fire and Explosion Hazard Data

Flash point (Method Used)	Flammable Limits	LEL	UEL
Not applicable	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	<input type="radio"/>	

Incompatibility (Materials to Avoid)

Strong acids and strong oxidizing agent.

Hazardous Decomposition or Byproducts

CO,CO2,NOX and H2O etc.

Hazardous Polymerization	May Occur		Conditions to Avoid None
	Will Not Occur	<input type="radio"/>	

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation? No	Skin? No	Ingestion? possible but very unusual.
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Health Hazards(Acute and Chronic)

All the ingredients are negative mutagenic(Test species ;S. typhimurium)

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

Not applicable

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
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Other Protective Clothing or Equipment

None

Work/Hygienic Practices

None