

**MATERIAL SAFETY DATA SHEET****1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION**

PRODUCT NAME: R510HF  
 Company name: DAI NIPPON PRINTING CO., LTD.  
 Address: 2-5-1, Hirosedai, Sayama, Saitama, 350-1328 JAPAN  
 Department : Imaging Communications Operations  
 Telephone : +81-04-2952-9758  
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 Intended purpose : thermal transfer ribbon

**2. HAZARD IDENTIFICATION**

GHS CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

PHYSICAL HAZARDS: Not applicable

HEALTH HAZARDS

- Carcinogenicity : Not classified

The carbon black included in thermal transfer ribbon is classified in group 2B by IARC.  
 However, there are not the data which there is carcinogenicity as thermal transfer ribbon

ENVIRONMENTAL HAZARDS: Not applicable

\*Not above mentioned hazard classification items; Not classified or Not classifiable.

GHS LABEL ELEMENTS INCLUDING PRECAUTIONARY STATEMENTS

SYMBOL: Not applicable

SIGNAL WORD: Not applicable

HAZARD STATEMENT: Not applicable

PRECAUTIONARY STATEMENTS:

【Prevention】

- Do not handle until all safety precautions have been read and understood.
- Use only outdoors or in well-ventilated area.
- Do not eat, drink or smoke when using this product.
- Do not use near fire.
- Wear protective gloves/clothing and respiratory protection.
- Wash hands thoroughly after handling.

**3. Composition/Information on Ingredients**

SUBSTANCE/MIXTURE : mixture

Thermal transfer ribbon

Component	Weight % (about)	CAS-Reg.NO.
Polyethylene terephthalate film	64~81%	25038-59-9
Thermal transfer ink	19~36%	-

Thermal transfer ink

Component	Weight % (about)	CAS-Reg.NO.
Carbon Black	17~24%	1333-86-4
acrylic resin	56~72%	9011-14-7
synthetic resin	13~18%	Trade secret

HAZADOUS INGREDIENT: none

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## 4. FIRST AID MEASURES

### IF INHALED

- Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- If symptom turns worse or continuance, get medical advice/attention.

### IF IN EYES

- Immediately rinse with fresh and a large amount of water.
- If eye irritation persists, get medical advice/attention.

### IF ON SKIN

- Remove from skin with carefully
- Wash skin with water.
- If skin irritation occurs or feel unwell, get medical advice/attention.

### IF SWALLOWED

- If possible, induce vomiting, rinse the patient mouth with water, and get medical advice/attention immediately.

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## 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

CO<sub>2</sub>, Water, Dry Chemicals, Foam SPECIFIC EXTINCTION METHOD

### 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.

### Fire and Explosion Hazards

The product is not classified as flammable, but will burn if involved in a fire, forming smoke, and toxic fumes, gases and vapors.

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** For large-scale spills involving dye or ribbon, ensure personal protection is worn (see Section 8).

**Environmental Precautions:** Do not release to sewer, surface water or ground water.

**Method for Cleaning Up:** Vacuum or sweep up materials and place in a disposal container. When sweeping, avoid raising dust. If a vacuum is used, motor should be rated as dust tight, and be non-sparking. Disposal should be subject to national, and local law.

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## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with skin, eye and clothing.  
In case of contact, wash the contaminated area immediately.

**Storage:** Keep away from heat and flame. Keep in a cool and dry place.  
Protect from sunlight. Keep out of the reach of children.

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## 8. Exposure controls/personal protection

**Exposure Guidelines:** EU: None

UK Occupational exposure limits (carbon black): long-term exposure limit (8 h), 3.5mg/m<sup>3</sup>; short-term exposure limit (15 min), 7 mg/m<sup>3</sup>.

**Engineering Controls:** Good general ventilation is recommended.

**DNEL(s):** Not available

**PNEC(s):** Not available

**Personal Protection Equipment(s):**

The need for personal protective equipment should be based on a workplace risk assessment for the particular use. Gloves (e.g. nitrile or PVC) and eye protection are recommended if handling the ribbon directly. Where more extensive contact may occur, wear suitable protective clothing (e.g. apron, sleeves, boots).

PPE should be to European (EN) standards. Consult manufacturers concerning breakthrough times.

For the packaged ribbon, PPE is not usually required.

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## 9. Physical and chemical properties

Property	Value	Units
Form :	Solid	
Colour :	Black	
Odor :	Slight Wax's odor.	
pH value :	N/A	
Viscosity :	N/A	
Melting point :	N/A	°C
Boiling point :	N/A	°C
Ignition Temperature:	N/A	°C
Flashpoint :	N/A	°C

Property	Value	Units
Explosion limits : lower	N/A	Vol%
upper	N/A	Vol%
Vapour pressure :	N/A	hPa
Density :	~1.3	g/cm <sup>3</sup>
Solubility in water :	insoluble	

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## 10. Stability and reactivity

**Conditions to be avoided:**

Conditions to avoid: heat and sunlight.

**Substances to be avoided:**

Strong acids and strong oxidizing agents

**Hazardous decomposition products:**

Thermal decomposition gives CO, CO<sub>2</sub>, NO<sub>x</sub>.

**Further information:**

None

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## 11. Toxicological information

**Acute toxicity:**

The ingredients are not classified for health effects, and so the product is not expected to be classified as hazardous.

**Further toxicological information:**

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.

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## 12. Ecological information

No information available.

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## 13. Disposal considerations

Recycling and landfill are recommended for the industrial disposal for ink or ribbon. Disposal must be in accordance with current national and local regulations.

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## 14. Transport information

Not classified as dangerous goods for transport.

No specific precautionary transport measures for safety reasons.

Storage conditions see item 7.

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## 15. Regulatory information

### Classification and labeling according to EC Directives

**Classification** Not classified

**Symbol and indication of danger** None

**Risk phrases** None

**Safety phrases** None

### EU legislation

Dangerous Substances Directive (67/548/EEC)

Dangerous Preparations Directive (99/45/EC)

REACH Regulation (1907/2006)

Regulation (EC) No 1272/2008 on *Classification, Labeling and Packaging of Substances and Mixtures*

Chemical Agents Directive (98/24/EC)

Personal Protective Equipment (EC Directive) Regulations SI 1992/3139.

### UK legislation

Control of Substances Hazardous to Health Regulations 2002.

Health and Safety at Work Act 1974 c 37.

### Guidance

The Compilation of Safety Data Sheets (Third Edition) (CHIP 3 Approved Code of Practice).

COSHH Essentials: Easy steps to control chemicals; HSE Books 2003 (also available on the HSE web site).

Workplace Exposure Limits EH40.

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## 16. Other information

References

Annex VI of Regulation 1272/2008 on *Harmonized Classification and Labeling for Certain Hazardous Substances*.

Supplier safety data sheets.

Existing Chemical Substances Information System (ESIS) available at the European Chemical Bureau website: <http://ecb.jrc.ec.europa.eu/esis/>.

All specifications are to be created based on the information we can get at this time may be revised by new knowledge.

The content, the physico-chemical property and so on are not a guaranteed-performance.

Notes are usually aimed at handling. If special handling, usage, please Usage for safety measures.