

Product Name

Issue Date: June 1, 2005

TN-200HL/TN-250/TN-300/TN-5000PF Toner

MSDS No.: YL4TU003

**Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Name(s) : TN-200HL Toner, TN-250 Toner, TN-300 Toner and TN-5000PF Toner

Chemical Name : Black toner

Product Code : Toner N3

Description : These products are non-magnetic single component toner in a cartridge for Brother Industries, Ltd. page printers and fax receivers.

Manufacturer:

Brother Industries, Ltd.  
 Information & Document Company  
 1-1-1, Kawagishi, Mizuho-ku, Nagoya  
 467-8562, Japan  
 Telephone (for information): +81-52-824-2735

Importer in USA:

Brother International Corporation  
 100 Somerset Corporate Boulevard, P.O. Box 6911  
 Bridgewater, NJ 08807-0911, USA  
 Telephone (for information): 800-284-4329

Importer in Canada:

Brother International Corporation (Canada) Ltd.  
 1 Hotel De Ville, Dollard des Ormeaux, Quebec,  
 H9B 3H6, Canada  
 Telephone (for information): 514-685-0600

We do not provide 24 hour cover for information contact. Please telephone to the above office appropriate to you during our business hours.

**Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS**

CAS #	Components	OSHA PEL	ACGIH TLV	% Wt.
1333-86-4	Carbon Black (bound)	3.5 mg/m <sup>3</sup>	3.5 mg/m <sup>3</sup>	3-4
7631-86-9	Silica (amorphous)	*	*	1-2

\*: OSHA establishes a PEL of 15 mg/m<sup>3</sup> (total dust) and 5 mg/m<sup>3</sup> (respirable dust) for "Particles Not Otherwise Regulated". The ACGIH TLV is 10mg/m<sup>3</sup> for these particles.  
 Risks include reduced visibility and physical irritation.

**Section 3 - HAZARDS IDENTIFICATION**

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**\*Emergency Overview\***

Characteristics: Fine odorless powder (black colored),  
 water insoluble

Flash Point: Not applicable

HMIS Ratings: Health: 1 Fire: 1 Reactivity: 0

Personal Protection: (See Section 8) - No personal protective device is required under the normal use.

In case that some accident causes considerable spill, the following measures are suggested.

Use protective goggles. Use suitable protective gloves. Use a NIOSH/MSHA approved dust/mist respirator.

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**Potential Health Effects****Eyes**

This material presents no serious risk of chemical damage to the eyes.

**Skin**

This material presents no serious risk of chemical damage to the skin.

**Ingestion**

This material may be harmful if swallowed.

**Inhalation**

Respiratory tract may be affected by exposure to large amounts of dust from this material.

**Section 4 - FIRST AID MEASURES****Eyes**

Flush eyes with plenty of water for a minimum of 15 minutes, and seek medical attention.

**Skin**

Wash the material off from skin with plenty of soap and water.

**Ingestion**

If the material is swallowed, get immediate medical attention or advice.

**Inhalation**

Remove person to fresh air and seek medical attention. If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.

**Notes to Physician**

Not provided.

**Section 5 - FIRE FIGHTING MEASURES**

<b>Flash Point</b>	: Not applicable
<b>Method Used</b>	:
<b>Upper Flammable Limit (UFL)</b>	: Not known
<b>Lower Flammable Limit (LFL)</b>	: 31.6 g/m <sup>3</sup>
<b>Auto Ignition</b>	: Not available
<b>Flammability Classification</b>	: Not available
<b>Rate of Burning</b>	: Not available

**General Fire Hazards**

Minimal fire hazard. Material is self-extinguishing.

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**Hazardous Combustion Products**

Combustion or decomposition will generate phenol derivatives, carbon monoxide, carbon dioxide over 300°C

**Extinguishing Media**

Dry chemical or carbon dioxide for small fires.

Alcohol-type or all-purpose-type foams for large fires.

**Fire Fighting Equipment/Instruction**

Not provided

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NFPA Ratings:    Health: 1            Fire: 1            Reactivity: 0        Other: -  
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HMIS Ratings:    Health: 1            Fire: 1            Reactivity: 0  
                  Personal Protection: (See Section 8.)

<b>Section 6 - ACCIDENTAL RELEASE MEASURES</b>
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**Containment Procedures**

Review FIRE FIGHTING MEASURES (Section 5) and EXPOSURE CONTROLS/PERSONAL (Section 8) before proceeding with cleanup. Use appropriate personal protective equipment during cleanup. Prevent release of material into the natural environment.

**Clean-up Procedures**

If this material is spilled, sweep up the material and recover it, or mix the spilled material with moist absorbent and shovel into suitable waste container. This material is non-hazardous under RCRA.

**Evacuation Procedures**

Not applicable

**Special Instructions**

Not applicable

<b>Section 7 - HANDLING AND STORAGE</b>
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**Procedure for Handling**

Avoid dust inhalation and contact.

**Recommended Storage Methods**

Keep containers tightly closed and store in a cool, well ventilated area. Storage below 35°C is recommended to prevent this material from caking.

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION****Exposure Guidelines**

The substance is generally non-hazardous but keep exposure to a minimum.

**Component Exposure Limits**

Not available

**General Product Information**

The product is non-magnetic single component toner in a cartridge for use in page printers and fax receivers. This cartridge prevents the toner from spilling from itself. The toner material is generally non-hazardous when NOT a dust or powder. It is generally in fine granule form. In case that some accident causes considerable spill, the following measures are suggested.

**Engineering Ctrl:** Use local exhaust ventilation. (Use local ventilation in dusty areas.)

**Personal Protective Equipment**

**Eye/Face** : Use protective goggles.

**Skin** : Use suitable protective gloves.

**Respiratory** : Use a NIOSH/MSHA approved dust/mist respirator.

**General** : Not applicable

**Section 9 - PHYSICAL & CHEMICAL PROPERTIES**

<b>Appearance</b>	: Black powder	<b>Odor</b>	: Odorless
<b>Physical State</b>	: Solid	<b>pH</b>	: Not available
<b>Vapor Pressure</b>	: Not applicable	<b>Vapor Density</b>	: Not available
<b>Boiling Point</b>	: Not applicable	<b>Freezing Point</b>	: Not available
<b>Melting Point</b>	: Not applicable	<b>Solubility (H2O)</b>	: Insoluble
<b>Specific Gravity</b>	: 1.16 @ 20°C (68 F)	<b>Particle Size</b>	: ~0.3 mm
<b>Softening Point</b>	: 129 - 135°C	<b>Evaporation Rate</b>	: Not available
<b>Viscosity</b>	: Not available	<b>Bulk Density</b>	: Not available
<b>Percent Volatile</b>	: Not available	<b>Molecular Weight</b>	: Not available

**Additional Properties**

**Solubility in Chloroform:** Not available

**Section 10 - CHEMICAL STABILITY & REACTIVITY INFORMATION**

**Chemical Stability** : Stable

**Conditions to Avoid** : Not available

**Incompatibility**

Strong oxidizing agents

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**Hazardous Decomposition Products**

Combustion or decomposition will generate phenol derivatives, carbon dioxide, and carbon monoxide over 300°C.

**Hazardous Polymerization**

Will not occur.

<b>Section 11 - TOXICOLOGICAL INFORMATION</b>
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**Acute Toxicity/Target Organ Information****A. General Product/Component Information**

LD50 > 2,500mg/kg

**B. Component LD50 /LC50**

Not available

**Epidemiology**

Not available

**Carcinogenicity****A. General Product/Component Information**

In 1996, the IARC reevaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This evaluation is given to carbon black for which there is inadequate human evidence, but sufficient animal evidence.

The latter is based upon the development of lung tumors in rat receiving chronic inhalation exposures to free carbon black at level 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.

**B. Component Carcinogenicity Listings**

Not available

**Teratogenicity/Reproductive Effects**

Not available

**Neurotoxicity**

Not available

**Mutagenicity**

Negative (AMES Test; Salmonella typhimurium, Escherichia coli; Data on similar product)

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**Other Information****Chronic Effects**

In a study in rats by 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 (16 mg/m<sup>3</sup>) exposure group, and a minimal to mild degree of fibrosis was noted in 22 % of the animals in the middle (4 mg/m<sup>3</sup>) exposure group.

But no pulmonary change was reported in the lowest (1 mg/m<sup>3</sup>) exposure group, which the most relevant level to potential human exposures.

**Section 12 - ECOLOGICAL INFORMATION****Ecotoxicity**

Not available

**Environmental Fate**

Not available

**Section 13 - DISPOSAL CONSIDERATIONS****US EPA Waste Number & Descriptions****A. General Product Information**

Not applicable

**B. Component Waste Numbers**

Not applicable

**Disposal Instructions**

Dispose of material waste in accordance with governmental regulations. Prevent release of material into natural environment.

**Section 14 - TRANSPORTATION INFORMATION****DOT Information**

Shipping Name : Not applicable (Non-hazardous material)

Hazard Class : Not applicable

UN/NA # : Not applicable

Packing Group : Not applicable

**Label(s) Required**

Not applicable

**Additional Shipping Information**

Not provided

**International Transportation Regulations**

Not provided

**Section 15 - REGULATORY INFORMATION****US Federal Regulations**

- A. **General Product Information**
  - × **On TSCA Inventory**
  - Not on TSCA Inventory - Provided under R&D Exemption**
- B. **Component Information**
  - Not available**

**State Regulations**

- A. **General Product Information**
  - Not regulated**
- B. **Component Information**
  - Not available**

**Other Regulations**

- A. **General Product Information**
  - Not available**
- B. **Component Information**
  - Not available**

**Section 16 - OTHER INFORMATION****Other Information**

This document is based on our knowledge at the time of preparation. While Brother Industries, Ltd. believes that the data contained herein are accurate, many of the data have been derived from outside sources and we cannot assume any liability as to the accuracy of the data. They are offered solely for your information.

This document covers only normal conditions of use and handling. When using product under unintended conditions, user is responsible to examine proper precautions for any particular use.

End of MSDS No.: YL4TU003