

Product Name
TN-210BK, TN-230BK, TN-240BK, TN-270BK Toner

Issued: January 9, 2009
Revised: March 10, 2009
Version number: 2

MSDS No. PT492-01-EUUSOTHER

Section 1 – Identification of the Substance/Preparation and of the Company/Undertaking

Product name: TN-210BK Toner, TN-230BK Toner, TN-240BK Toner, TN-270BK Toner
Material name: PT492
Use of Product: These products are black toner in a cartridge for Brother Industries, Ltd. laser printers, multifunction devices and fax receivers.
The cartridge prevents the toner from spilling in normal use.
Manufacturer: Brother Industries, Ltd.
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, 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): +1-800-284-4329
Importer in Canada: Brother International Corporation (Canada) Ltd.
1 Hotel de Ville, Dollard des Ormeaux, Quebec, H9B 3H6, Canada
Telephone (for information): +1-514-685-0600
Importer in Europe: Brother International Europe Ltd.
Brother House, 1 Tame Street, Guide Bridge, Audenshaw, Manchester M34 5JE, UK
Telephone (for information): +44-161-330-6531
Importer in Australia: Brother International (Aust.) Pty. Ltd. ACN 001 393 835
Level 3, Building A, 11 Talavera Road, Macquarie Park, NSW 2113, Australia
Telephone (for information): +61-2-9887-4344

We do not provide 24-hour cover, for information please telephone the appropriate office during business hours.

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Section 2 - Hazards identification

EMERGENCY OVERVIEW

These products are the black colored toner with an odorless. They are not expected to cause any adverse health or physical effects through normal use. Unintended operations may produce dust leakage that may cause eye and respiratory tract irritation. Toxic combustion products may be released under fire conditions.

Potential health effects from overexposure:

Possible routes of entry include skin/eye contact and dust inhalation. Minimal respiratory tract irritation may occur as with large amounts of any non-toxic dust. Overexposure to decomposition or combustion products may cause irritation of eyes, skin and respiratory tract. See Section 10 for information on combustion products.

EC Classification:

Not classified as hazardous according to EU Directive 1999/45/EC.

Australia Classification:

Not classified as hazardous according to the criteria of NOHSC.

Potential Health Effect:

Routes of exposure:

Possible routes of entry include skin/eye contact and dust inhalation.

Skin contact:

No symptoms will appear.

Eye contact:

Eye irritation will be caused. Use this product as intended in order to prevent the dust leakage that leads to eye contact.

Particulate inhalation:

Exposure to large amount of dust will cause lung irritation, difficult breathing, sneezing and/or coughing.

Use this product as intended in order to prevent the dust leakage that leads to dust inhalation.

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Ingestion:

Stomach irritation will be caused. It is highly unlikely that ingestion occurs under intended use.

Section 3 - Composition / information on ingredients

Chemical name: Styrene-acrylate Toner (Mixture)

Ingredients:

Component/ Substance	CAS Number	EC Number	%Wt.	EU Symbol letters / Risk Phrases
Styrene-acrylate Copolymer	25767-47-9	--	84 - 87	Not classified
Carbon Black (bound)	1333-86-4	215-609-9	5 - 7	Not classified
Fatty Acid Ester	Registered	--	4 - 6	Not classified
PMMA	9011-14-7	--	1 - 3	Not classified
Silicon Dioxide (amorphous)	112945-52-5	231-545-4	1 - 3	Not classified
Styrene-acrylic resin	Registered	--	0.1 - 2	Not classified
Silicon Dioxide (amorphous)	844491-94-7	430-570-1	< 1	Not classified

Section 4 - First aid measures

If irritation occurs or persists from any route of exposure, remove the affected individual from the area and seek medical assistance.

Eye contact:

Flush eyes with running water for 15 minutes with eyelids open. Consult an eye-doctor.

Skin contact:

Remove contaminated clothes and wash skin with soap and water.

Particulate inhalation:

Remove the sufferer to fresh air and seek medical assistance immediately.

Ingestion:

Seek medical assistance immediately.

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Section 5 - Fire fighting measures

Extinguishing media:

Dry chemicals, CO₂, water spray or foam are recommended media.

Special firefighting procedures:

Do not use straight water, high-pressure water or water steam in order to prevent creating a dust cloud and spreading fire dust. Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

Unusual fire and explosion hazards:

Thermal decomposition of organic components may result in occurrence of oxides of carbon.

Special precautions must be taken if (like most organic materials in powder form) it can form explosive mixtures when dispersed in air. Toxic gasses may be formed upon combustion and represents a hazard to firefighters. See Section 10 for additional information on combustion products.

Explosion limits: Lower = 50 - 60 g/m³

Section 6 - Accidental release measures

Personal precautions:

Minimize generation of toner dust. Avoid inhalation of the dust.

Environmental precautions:

Prevent from entering into the surface water or sewerage system.

Method of cleaning up:

Sweep the spilt toner or remove it with a vacuum cleaner, and transfer into the sealed container carefully. Sweep slowly to minimize generation of dust during clean-up. If the vacuum cleaner is used, the motor must be rated as dust explosion-proof. A conductive hose bonded to the machine should be used to reduce static build-up. Residue can be removed with soap and cold water.

Clothes may be washed or dry cleaned after removal of loose toner.

See section 13 for disposal considerations.

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Section 7 - Handling and storage

Handling:

Keep out of the reach of children. In case of accidental spill, try not to disperse the particles. Avoid prolonged inhalation of excessive dust and contact eyes. Use with adequate ventilation. Use the mask, which recommended preventing dust and coarse particulate.

Storage:

Keep out of the reach of children. Keep container tightly closed. Keep away from contact with oxidizing materials. Store in a cool and dry place away from direct light to maintain quality.

Section 8 - Exposure controls / personal protection

Exposure limit value:

Ingredients	CAS Number	OSHA PEL	ACGIH TLV	Workplace exposure limit (UK, basis: EH40/2005)	
				Long-term exposure limit (8-hour TWA reference period)	Short-term exposure limit (15-minute TWA reference period)
Carbon black	1333-86-4	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA	3.5 mg/m ³	7 mg/m ³
Silicon Dioxide (amorphous)	844491-94-7	6 mg/m ³	10 mg/m ³ TWA (inhalable dust) 3 mg/m ³ TWA (respirable dust)	6 mg/m ³ (inhalable dust) 2.4 mg/m ³ (respirable dust)	--
Silicon Dioxide (amorphous)	112945-52-5		10 mg/m ³ TWA	6 mg/m ³ (inhalable dust) 2.4 mg/m ³ (respirable dust)	--

Additional exposure data:

USA OSHA PEL (TWA): 15 mg/m³ (Total dust), 5 mg/m³ (Respirable Fraction)

ACGIH TLV (TWA): 10 mg/m³ (Inhalable particles), 3 mg/m³ (Respirable particles)

UK, EH40/2005 (8-hour TWA): 10 mg/m³ (Inhalable dust), 4 mg/m³ (Respirable dust)

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Ventilation:

Good general ventilation should be sufficient under normal use.

Personal protective equipment:

Not required under intended use. For use other than in normal operating procedures (such as in the event of large spill), the following should be applied:

- Eye/face: Safety goggles
- Skin: Protective gloves recommended
- Respiratory: Dust mask (Respirator for large spill)

Section 9 - Physical and chemical properties
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Appearance and odor:	Black powder and odorless
pH:	Not applicable
Boiling point/boiling range:	Not applicable
Melting point/melting range:	110 °C (softening point)
Flash point:	Not applicable
Flammability (solid, gas):	No data available
Explosive properties:	50 - 60g/m ³ (Dust explosibility: Lower limit)
Oxidizing properties:	No data available
Vapour pressure:	Not applicable
Relative density:	1.15 (Specific Gravity H ₂ O=1)
Solubility:	No data available
Water solubility:	Negligible
Partition coefficient:n-octanol/water:	No data available
Viscosity:	Not applicable
Vapour density:	Not applicable
Evaporation rate:	Not applicable

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Section 10 - Stability and reactivity

Stability: Stable

Hazardous polymerization: Will not occur

Conditions to avoid: Overheating (do not expose to temperature above 200°C) and contact with ignition sources such as open flames, sparks, electrical arcs and static discharge sources.

Materials to avoid: Avoid exposure to strong oxidizers or reducing agents.

Hazardous decomposition products: The gas generated by heat decomposition may contain carbon monoxide, carbon dioxide and Nitrogen.

Section 11 - Toxicological information

Products

Acute oral toxicity:	LD ₅₀ > 2000mg/kg	(Method: OECD#420)
Acute inhalation toxicity:	LC ₅₀ > 5.18mg/l	(Method: OECD#403)
Skin irritation:	Non-irritant	(Method: OECD#404)
Eye irritation:	Minimal irritant	(Method: OECD#405)
Mutagenicity:	Negative	(Method: OECD#471 / Ames test)
Skin Sensitization (LLNA)	Non-sensitizer	(Method: OECD#429)

Carbon black

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.

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Section 12 - Ecological information

No data available on the adverse effects of this product on the environment.

Ecotoxicity: No data available
Mobility: No data available
Persistence and degradability: No data available
Bioaccumulation potential: No data available

Section 13 - Disposal considerations

Do not put toner or toner cartridge into fire. It cause burn injury from spread-fired toner.

When you shred a toner cartridge, do it at dust-explosion prevented place. Finely dispersed particles may form explosive mixtures in air.

Dispose of in compliance with Federal, State and local regulations.

Section 14 - Transportation information

U.N. Recommendations on the Transport of Dangerous Goods: Not applicable

U.N. Number: None
U.N. Classification: None.

EC Classification: Not classified as hazardous according to EU Directive 1999/45/EC.

Not regulated under DOT, IMDG, ADR, RID, IATA.

- * *DOT: U.S. Department of Transportation*
- * *IMDG: International Maritime Dangerous Goods*
- * *ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.*
- * *RID: International regulations concerning the international carriage of dangerous goods by rail*
- * *IATA: International Air Transport Association*

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Section 15 - Regulatory information

Inventories:	JCSCL (Japan)	Yes
	TSCA (USA)	Yes
	EINECS/ELINCS (EU)	Yes

Information on the label (according to 1999/45/EC and 67/548/EEC)

Symbol, R-Phrase, S-Phrase: Not required.

Canada Information

WHMIS Controlled Product: Not applicable (Manufactured article)

Section 16 - Other information

Hazard rating system classification

	NFPA	HMIS	Key: 0-least; 1-slight; 2-moderate; 3-high; 4-extreme
Health	1	1	N ational F ire P rotection A ssociation rating identifies hazards during a fire emergency. H azardous M aterials I dentification S ystem rating applies to products as packaged.
Flammability	1	1	
Reactivity	0	0	

Additional Information;

The information relates only to this specific toner cartridge. It may not be valid for this toner cartridge, if used in combination with any other materials or in any other process. And it is based on our best knowledge as of the date of preparation (revision).