

Product Name

TN-3230, TN-3280, TN-620, TN-650, TN-3250, TN-3290

TN-3235, TN-3285 Toner

Date: November 24, 2008

Revised: December 26, 2008

Version number: 4

MSDS No. PT481-01-EUUSOTHER

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

Product name: TN-3230 Toner, TN-3280 Toner, TN-620 Toner, TN-650 Toner, TN-3250 Toner,  
TN-3290 Toner, TN-3235 Toner, TN-3285 Toner

Material name: PT481

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 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 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 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 hours cover for information contact.

Please telephone to the above office appropriate to you during our 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.

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.

Ingestion:

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

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**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 - 5	Not classified
PMMA	9011-14-7	--	1 - 3	Not classified
Styrene-acrylic resin	Registered	--	1 - 2	Not classified
Silicon Dioxide (amorphous)	844491-94-7	430-570-1	< 1	Not classified
Silicon Dioxide (amorphous)	7631-86-9	231-545-4	< 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, CO<sub>2</sub>, 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 = 40 g/m<sup>3</sup>

### 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 <sup>3</sup> TWA	3.5 mg/m <sup>3</sup> TWA	3.5 mg/m <sup>3</sup>	7 mg/m <sup>3</sup>
Silicon Dioxide (amorphous)	844491-94-7	6 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> TWA (inhalable dust) 3 mg/m <sup>3</sup> TWA (respirable dust)	6 mg/m <sup>3</sup> (inhalable dust) 2.4 mg/m <sup>3</sup> (respirable dust)	--
Silicon Dioxide (amorphous)	7631-86-9		10 mg/m <sup>3</sup> TWA	6 mg/m <sup>3</sup> (inhalable dust) 2.4 mg/m <sup>3</sup> (respirable dust)	--

**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)

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Section 9 - Physical and chemical properties

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:	40g/m <sup>3</sup> (Dust explosibility: Lower limit)
Oxidizing properties:	No data available
Vapour pressure:	Not applicable
Relative density:	1.15 (Specific Gravity H <sub>2</sub> 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

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.

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## Section 11 - Toxicological information

### Products

The data of a similar product is used.

Acute oral toxicity:	LD <sub>50</sub> (rat) > 2000mg/kg	(Method: OECD#420)
Acute inhalation toxicity:	LC <sub>50</sub> (rat) > 5.30mg/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.

## 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

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**Section 13 - Disposal considerations**

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

This material is not a hazardous waste per Federal Regulation 40 CFR 261 when disposed.

Consult with the appropriate State and Local Waste Authorities for additional information.

Incinerate only in a closed container.

**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*

**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.



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Section 16 - Other information

Hazard rating system classification

	NFPA	HMIS	Key: 0-least; 1-slight; 2-moderate; 3-high; 4-extreme
Health	1	1	National Fire Protection Association rating identifies hazards during a fire emergency. Hazardous Materials Identification System rating applies to products as packaged.
Flammability	1	1	
Reactivity	0	0	

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.