

Product Name  
TN-410, TN-420, TN-450, TN-2010, TN-2210, TN-2220, TN-2015  
TN-2215, TN-2225, TN-2030, TN-2230, TN-2250, TN-2060,  
TN-2260, TN-2280, TN-2090, TN-2235, TN-2275 Toner

Issued: March 29, 2010  
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Version number: 3  
MSDS No. BPB-01-EUUSOTHER

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

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**Material name:** BPB

**Use of Product:** These products are black toner in a cartridge for Brother Industries, Ltd. laser printers, multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated. Information provided on this MSDS is only consistent with the use specified by Brother.

**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.

**Emergency telephone number:** CHEMTREC +1-703-527-3887 (International)  
1-800-424-9300 (North America)

**For France Only:**

Antipoison Center telephone number: ORFILA +33-1-45-425-959

**E-mail address for information:** [sds.info@brother.co.jp](mailto:sds.info@brother.co.jp)

**Section 2 – Hazards identification**

**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.

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**Potential Health Effects:**

Routes of exposure:

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

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.

Skin contact:

No symptoms will appear.

Eye contact:

May cause eye irritation. Use this product as intended in order to prevent the dust leakage that leads to eye contact.

Ingestion:

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

**Special Hazards:**

Like most powdered organic materials, toner can form explosive mixtures when dispersed in the air, if ignited, could result in a dust explosion.

**EU Classification:**

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

**Australia Classification:**

Not classified as hazardous according to the criteria of NOHSC.

**Section 3 – Composition / information on ingredients**

**Chemical name:** Polyester Toner (Mixture)

**Hazardous ingredients:**

Component/ Substance	CAS Number	EC Number	%Wt.	EU Symbol letters / R Phrases
n,n-diethyl-n-methyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]ethanaminium salt with 4-methylbenzenesulfonic acid (1:1) polymer with butyl 2-propenoate and ethenylbenzene	133350-42-2	N/A	5 - 10	Xi, R36
Carbon Black (bound)	1333-86-4	215-609-9	2.5 - 5.5	Not classified
rosin, fumarated	65997-04-8	266-040-8	1 - 2.5	Xi, R36

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**Other ingredients:**

Component/ Substance	CAS Number	EC Number	%Wt.	EU Symbol letters / R Phrases
Polyester resin	Confidential	N/A	Confidential	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 obtain medical attention.

- Particulate inhalation: Obtain immediate medical attention. Remove casualty to fresh air and keep at rest.
- Skin contact: Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water.
- Eye contact: Obtain medical attention. If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.
- Ingestion: Obtain immediate medical attention. Wash out mouth with water and give 200-300 ml (half a pint) of water to drink.

**Section 5 – Fire fighting measures**

**Extinguishing media:**

Extinguish preferably with dry chemical or water spray.

**Unsuitable extinguishing media:**

High-pressure water

**Special firefighting procedures:**

Do not use high-pressure water 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 because most powdered organic materials can form explosive mixtures when dispersed in the 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:** No data available

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**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.

**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. Provide adequate ventilation. Use the mask, which recommended preventing dust and coarse particulate.

**Storage:**

Keep out of the reach of children. Keep away from oxidizing agents.

**Section 8 – Exposure control / personal protection**

**Exposure limit value:**

Ingredients	CAS Number	OSHA PEL	ACGIH TLV	EU IOELV
Carbon black	1333-86-4	3.5 mg/m <sup>3</sup> TWA	3.5 mg/m <sup>3</sup> TWA	None

Additional exposure data:

USA OSHA PEL (TWA): 15 mg/m<sup>3</sup> (Total dust), 5 mg/m<sup>3</sup> (Respirable Fraction)  
ACGIH TLV (TWA): 10 mg/m<sup>3</sup> (Inhalable particles), 3 mg/m<sup>3</sup> (Respirable particles)

**Environmental exposure control:** Not required under normal use.

**Ventilation:** Good general ventilation should be sufficient under normal use.

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**Personal protective equipment:**

Not required under normal 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  
Respiratory: Dust mask (Respirator for large spill)

**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: No data available  
Flash point: Not applicable  
Flammability (solid, gas): No data available  
Explosive properties: No data available  
Oxidizing properties: No data available  
Vapor pressure: Not applicable  
Relative density: 1.2 (Specific Gravity H<sub>2</sub>O=1, 20°C)  
Solubility: Partially soluble in toluene, chloroform and tetrahydrofuran  
Water solubility: Insoluble  
Partition coefficient:n-octanol/water: No data available  
Viscosity: Not applicable  
Vapor density: Not applicable  
Evaporation rate: Not applicable

**Section 10 – Stability and reactivity**

**Stability:** Stable  
**Conditions to avoid:** Overheating and contact with ignition sources such as open flames, sparks, electrical arcs and static discharge sources.  
**Materials to avoid:** Strong oxidizers.  
**Hazardous decomposition products:** The gas generated by heat decomposition may contain carbon monoxide, carbon dioxide, nitrogen oxide and sulfur oxide.  
**Hazardous polymerization:** Will not occur

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### Section 11 – Toxicological information

#### Products

Acute oral toxicity:	LD <sub>50</sub> > 5000mg/kg	(Method: OECD#423)
Acute inhalation toxicity:	LC <sub>50</sub> > 2.2mg/l	(The highest technically achievable concentration)
		(Method: OECD#403) (1)
Skin irritation:	Non-irritant	(Method: OECD#404) (1)
Eye irritation:	Minimal irritant	(Method: OECD#405) (1)
Mutagenicity:	Negative	(Method: OECD#471 / Ames test)
Skin Sensitization:	Non-sensitizer	(Method: OECD#406) (1)

(1) This assessment is based on information available on similar products.

#### 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.

**Other ingredients of this product have not been classified as carcinogens according to IARC monographs, NTP and OSHA regulated.**

### 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 causes 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.

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#### **Section 14 – Transportation information**

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'.

UN Number: None

UN Classification: None

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

#### **Section 15 – Regulatory information**

##### **US Information**

All components in this product are listed on TSCA inventory.

##### **EU Information**

Labelling (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**

The following sections contain revisions or new statements: Section 1

##### **EU Symbol letters**

Xi : Irritant

##### **EU Risk Phrases**

R36 : Irritating to eyes

##### **Additional Information:**

The information relates only to this product. It may not be valid, 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).

##### **Reference:**

- U.S. 29CFR Part 1910
- ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices
- EU Directive 91/322/EEC and 2000/39/EC
- IARC Monographs on the Evaluation Carcinogenic Risks to Humans World Health Organization
- NTP 11<sup>th</sup> Report on Carcinogens

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**Abbreviations:**

- ACGIH: American Conference of Governmental Industrial Hygienists
- ADR: European Agreement concerning the International carriage of Dangerous goods by Road (EU)
- DOT: Department Of Transportation (US)
- EINECS: European Inventory of Existing Commercial Chemical Substances (EU)
- HCS: Hazard Communication Standard (US)
- IARC: International Agency for Research on Cancer
- IATA: International Air Transport Association
- IMDG: International Maritime Dangerous Goods
- IOELV: Indicative Occupational Exposure Limit Value
- NOHSC: National Occupational Health and Safety Commission (Australia)
- NTP: National Toxicology Program (US)
- OSHA: Occupational Safety and Health Administration (US)
- PEL: Permissible Exposure Limit
- RID: Regulations concerning the International carriage of goods by Rail (EU)
- TLV: Threshold Limit Value
- TSCA: Toxic Substances Control Act (US)
- WHMIS: Workplace Hazardous Material Information System (Canada)