

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** TN-221BK, TN-241BK, TN-251BK, TN-261BK, TN-281BK Toner

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant Identified Use(s)** 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 SDS is only consistent with the use specified by Brother.

### 1.3 Details of the supplier of the safety data sheet

**Manufacturer** Brother Industries, Ltd.  
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan  
Telephone (for information): +81-52-824-2735

**Importer (USA)** Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-800-284-4329

**Importer (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 (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 (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

**E-mail Address** sds.info@brother.co.jp

### 1.4 Emergency telephone number

**Emergency Telephone (24 hours)** 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

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Not classified as hazardous

#### Classification according to Directive 1999/45/EC

Not classified as hazardous

#### Australia Classification

Not classified as hazardous according to the criteria of NOHSC

### 2.2 Label elements

#### Labelling according to Regulation (EC) No. 1272/2008

#### Hazard pictograms

None

#### Signal Word

None

#### Hazard Statements

None

#### Precautionary statements

None

### 2.3 Other hazards

This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Description of the mixture: Styrene-acrylate Toner (Mixture).

Chemical Name	CAS-No	EC-No	w/w%	Classification (67/548/EEC)	Classification (EU Reg. 1272/2008)
Styrene-acrylate copolymer	25767-47-9	-	80-85	Not classified	Not classified
Carbon Black (bound)	1333-86-4	215-609-9	5-7	Not classified	Not classified
Paraffin wax	8002-74-2	232-315-6	2-4	Not classified	Not classified
Fatty Acid Ester	**	-	2.5-4	Not classified	Not classified
PMMA	9011-14-7	-	2-3	Not classified	Not classified
Silicon Dioxide (amorphous)	112945-52-5	231-545-4	0.5-3	Not classified	Not classified
Silicon Dioxide (amorphous)	7631-86-9	231-545-4	0.1-1.5	Not classified	Not classified
Styrene-acrylate Resin	**	-	0.1-2	Not classified	Not classified

For the full text of R-phrases and H-Statements see Section 16

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice	If symptoms persist, obtain medical attention.
Inhalation	Obtain immediate medical attention. In case of accident by inhalation 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 100-200 ml of water to drink.

### 4.2 Most important symptoms and effects, both acute and delayed

Inhalation (dust): For large quantities: May cause irritation to the respiratory system. Increased difficulty in breathing. Sneezing. Coughing.

Eye contact: May cause eye irritation.

Ingestion: May cause stomach ache. Unlikely route of exposure.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable Extinguishing Media      Extinguish preferably with dry chemical, carbon dioxide, water spray, foam.

Unsuitable Extinguishing Media      Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

May form explosible dust clouds in air.

### 5.3 Advice for firefighters

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.

**SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures** Avoid generation of dust. Do not breathe dust. A suitable dust mask or dust respirator with filter type A/P may be appropriate.
- 6.2 Environmental precautions** Prevent substance entering sewers. Washings must be prevented from entering surface water drains.
- 6.3 Methods and materials for containment and cleaning up** Sweep the spilt toner or remove it with a vacuum cleaner and transfer into a sealed container carefully. Sweep slowly to minimize generation of dust during cleanup. If a vacuum cleaner is used, the motor must be rated as dust explosion proof. Potential for very fine particles to be taken into the vacuum only to be passed back into the environment due to pore size in the bag or filter.
- 6.4 Reference to other sections** For personal protection: See section 8.  
For disposal considerations: See section 13.

**SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling** Keep out of the reach of children. Avoid generation of dust. Avoid inhalation of high concentrations of dust. Avoid contact with eyes.
- 7.2 Conditions for safe storage, including any incompatibilities** Keep away from oxidizing agents.
- 7.3 Specific end use(s)** These products are black toner in a cartridge for Brother Industries, Ltd. laser printers, multifunction devices and fax receivers. This cartridge should be used as supplied by Brother and for use in the products stated.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control Parameters**

**Occupational Exposure Limits**

Chemical Name	Carbon Black (bound) 1333-86-4
ACGIH TLV	TWA: 3 mg/m <sup>3</sup> inhalable fraction
OSHA PEL	TWA: 3.5 mg/m <sup>3</sup>
European Union	-
The United Kingdom	STEL: 7 mg/m <sup>3</sup> TWA: 3.5 mg/m <sup>3</sup>
France	TWA: 3.5 mg/m <sup>3</sup>
Spain	TWA: 3.5 mg/m <sup>3</sup>
Germany	Carc
Portugal	TWA: 3.5 mg/m <sup>3</sup>
Finland	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>
Denmark	TWA: 3.5 mg/m <sup>3</sup>
Poland	TWA: 4.0 mg/m <sup>3</sup>
Norway	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>
Ireland	TWA: 3.5 mg/m <sup>3</sup> STEL: 7 mg/m <sup>3</sup>
Chemical Name	Paraffin wax 8002-74-2
ACGIH TLV	TWA: 2 mg/m <sup>3</sup> fume
OSHA PEL	-

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<b>European Union</b>	-
<b>The United Kingdom</b>	STEL: 6 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>
<b>France</b>	TWA: 2 mg/m <sup>3</sup>
<b>Spain</b>	TWA: 2 mg/m <sup>3</sup>
<b>Portugal</b>	TWA: 2 mg/m <sup>3</sup>
<b>Finland</b>	TWA: 1 mg/m <sup>3</sup>
<b>Denmark</b>	TWA: 2 mg/m <sup>3</sup>
<b>Switzerland</b>	TWA: 2 mg/m <sup>3</sup>
<b>Poland</b>	TWA: 2 mg/m <sup>3</sup>
<b>Norway</b>	TWA: 2 mg/m <sup>3</sup> STEL: 4 mg/m <sup>3</sup>
<b>Ireland</b>	TWA: 2 mg/m <sup>3</sup> STEL: 6 mg/m <sup>3</sup>
<b>Chemical Name</b>	<b>Silicon Dioxide (amorphous)</b> <b>112945-52-5</b>
<b>ACGIH TLV</b>	-
<b>OSHA PEL</b>	20mppcf 80(mg/m <sup>3</sup> )/%SiO <sub>2</sub>
<b>European Union</b>	-
<b>Austria</b>	TWA: 4 mg/m <sup>3</sup>
<b>Chemical Name</b>	<b>Silicon Dioxide (amorphous)</b> <b>7631-86-9</b>
<b>ACGIH TLV</b>	-
<b>OSHA PEL</b>	20mppcf 80(mg/m <sup>3</sup> )/%SiO <sub>2</sub>
<b>European Union</b>	-
<b>The United Kingdom</b>	STEL: 18 mg/m <sup>3</sup> STEL: 7.2 mg/m <sup>3</sup> TWA: 6 mg/m <sup>3</sup> TWA: 2.4 mg/m <sup>3</sup>
<b>Germany</b>	TWA: 4 mg/m <sup>3</sup>
<b>Austria</b>	TWA: 4 mg/m <sup>3</sup> TWA: 0.3 mg/m <sup>3</sup>
<b>Switzerland</b>	TWA: 4 mg/m <sup>3</sup> TWA: 0.3 mg/m <sup>3</sup>
<b>Norway</b>	TWA: 1.5 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>
<b>Ireland</b>	TWA: 6 mg/m <sup>3</sup> TWA: 2.4 mg/m <sup>3</sup>

**Additional information**

USA OSHA PEL (TWA): 15 mg/m<sup>3</sup> (Total Dust) 5mg/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)

**8.2 Exposure controls**

**Appropriate engineering controls**

Good general ventilation should be sufficient under normal use.

**Personal protective equipment**

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

Eye Protection

Safety goggles.

Hand Protection

Protective gloves.

Skin and body protection

Long sleeved clothing and long pants.

Respiratory protection

Dust mask. (Large spillages: Respirator).

**Environmental Exposure Controls**

Avoid release to the environment.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	
Physical state	Powder
Color	Black
Odor	Odorless
Odor Threshold	No information available
pH	Not applicable
Melting point/freezing point	No information available
Initial boiling point and boiling range	Not applicable
Flash Point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	No information available
Vapor pressure	Not applicable
Vapor density	Not applicable
Relative density	No information available
Solubility(ies)	Insoluble (water)
Partition coefficient: n-octanol/water	No information available
Auto-ignition temperature	No information available
Decomposition temperature	No information available
Viscosity	Not applicable
Explosive properties	Explosive limits of toner particles suspended in air approximately equal to that of coal dust.
Oxidizing properties	No information available

### 9.2 Other information

No information available.

## SECTION 10: Stability and reactivity

10.1 Reactivity	No information available.
10.2 Chemical stability	Stable.
10.3 Possibility of hazardous reactions	No information available.
10.4 Conditions to avoid	Keep at a temperature not exceeding 200 °C. Avoid friction, sparks, or other means of ignition.
10.5 Incompatible materials	Strong oxidizing agents.
10.6 Hazardous decomposition products	Contains: Carbon monoxide, Carbon dioxide and Nitrogen oxides.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Inhalation	Acute LC <sub>50</sub> > 5.11 mg/l (Method OECD#436)
Eye contact	No information available.
Skin contact	No information available.
Ingestion	Acute LD <sub>50</sub> > 2000 mg/kg (Method OECD#420)

**Skin corrosion/irritation** Non-irritant. (Method: OECD#404)

**Serious eye damage/irritation** Minimal irritant to the eye. (Method: OECD#405)

**Respiratory or skin sensitisation** It is not a skin sensitizer. (Method: OECD#429)

**Mutagenicity** Ames test: Negative. (Method: OECD#471)

**Carcinogenicity** Carbon Black: In 1996, the IARC re-evaluated 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.**

## SECTION 12: Ecological information

### 12.1 Toxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Carbon Black (bound) 1333-86-4			EC <sub>50</sub> : >5600 mg/L 24 h (Daphnia magna)
Silicon Dioxide (amorphous) 7631-86-9	EC <sub>50</sub> : 440 mg/L 72 h (Pseudokirchneriella subcapitata)	LC <sub>50</sub> : 5000 mg/L 96 h static (Brachydanio rerio)	EC <sub>50</sub> : 7600 mg/L 48 h (Ceriodaphnia dubia)

**12.2 Persistence and degradability** No information available.

**12.3 Bioaccumulative potential** No information available.

**12.4 Mobility in soil** No information available.

**12.5 Results of PBT and vPvB assessment** This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6 Other adverse effects** No information available.

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## SECTION 13: Disposal considerations

**13.1 Waste treatment methods** Do not put toner or toner cartridges into a fire, this can cause fire to spread with the risk of causing burn injuries. Shred toner cartridges in a dust/explosion controlled environment. Finely dispersed particles may form explosive mixtures in the air. Dispose of in accordance with Federal, State, and local regulations.

## SECTION 14: Transport information

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

**14.1 UN Number** None  
**14.2 UN proper shipping name** None  
**14.3 Transport hazard class(es)** None  
**14.4 Packing Group** None  
**14.5 Environmental hazards** None  
**14.6 Special precautions for user** None  
**14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code** Not applicable

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

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture** **EU:**Not classified as dangerous for supply/use. (1999/45/EC)  
**USA:** All chemical substances contained in this product are and had been listed on the TSCA Chemical Substances Inventory, and none is subject to any of the following TSCA requirements: section 4 test rules; proposed or final section 5(a)(2) significant new use rules; section 5(e) consent orders; section 8(a) preliminary assessment information rules; and section 8(d) health and safety data reporting rules.  
**Canada:** WHMIS: Not applicable. (Manufactured article)

**15.2 Chemical Safety Assessment** No.



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## SECTION 16: Other information

**Full text of R-phrases referred to under sections 2 and 3**      None

**Full text of H-Statements referred to under sections 2 and 3**      None

**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).

**Revision Note**      Updated for compliance with EU Regulations 453/2010 and 172/2008 (CLP).

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

**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)  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods  
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)  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Value (ACGIH)  
TSCA: Toxic Substances Control Act (US)  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Material Information System (Canada)