

Product Name: TN-221BK, TN-241BK, TN-251BK, TN-261BK, TN-281BK Toner

Revision Date: 11-May-2020

Issuing Date: 02-Apr-2012

Revision Number: 5

Safety data sheet number: PT494-01

## 1. IDENTIFICATION

### Product identifier

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

### Other means of identification

**Synonyms** None

### Recommended use of the chemical and restrictions on use

**Recommended Use** 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. Information provided on this SDS is only consistent with the use specified by Brother.

**Uses advised against** No information available

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

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

**Supplier Address** Brother International Corporation  
200 Crossing Boulevard, Bridgewater, NJ 08807, USA  
Telephone (for information): +1-877-276-8437

### Emergency telephone number

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

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Appearance**  
**Physical state** Solid Powder **Odor:** Odorless

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**Other Information**

**Unknown acute toxicity**

98.7 % of the mixture consists of ingredient(s) of unknown toxicity  
 88 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 95.7 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 98.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 98.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 98.7 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

Not applicable.

**Mixture**

Chemical name	CAS No	Weight-%	Trade secret
Styrene-acrylate-copolymer	25767-47-9	80-85	*
Carbon Black (bound)	1333-86-4	5-7	*
Paraffin wax	8002-74-2	2-4	-
Fatty acid ester	**	2.5-4	*
PMMA	9011-14-7	2-3	*
Silicon dioxide (amorphous)	112945-52-5	0.5-3	*
Silicon Dioxide (amorphous)	7631-86-9	0.1-1.5	*
Styrene-acrylate Resin	**	0.1-2	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

\*\* Trade secret

**4. FIRST AID MEASURES**

**Description of first aid measures**

**General advice** If symptoms persist, call a physician.

**Inhalation** IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice/attention.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact:** Take off contaminated clothing. Wash off immediately with soap and plenty of water.

**Ingestion** Obtain immediate medical attention. Wash out mouth with water and give 100-200 ml of water to drink.

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

**Symptoms** 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

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

**Note to physicians** Treat symptomatically.

## **5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media** Dry chemical, CO<sub>2</sub>, water spray or regular foam

**Unsuitable extinguishing media** Do not use water jet.

**Specific hazards arising from the chemical** May form explosive dust clouds in air

### **Explosion data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Special protective equipment for fire-fighters** 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.

## **6. ACCIDENTAL RELEASE MEASURES**

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid generation of dust. Do not breathe dust. A suitable dust mask or dust respirator with filter type A/P may be appropriate.

**For emergency responders** Use personal protection recommended in Section 8.

### Environmental precautions

Prevent substance entering sewers. Washings must be prevented from entering surface water drains.

### Methods and material for containment and cleaning up

**Methods for containment** 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.

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**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Keep out of the reach of children. Avoid generation of dust. Avoid inhalation of high concentrations of dust. Avoid contact with eyes.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep away from oxidizing agents.

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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Limits** The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Carbon Black (bound) 1333-86-4	TWA: 3 mg/m <sup>3</sup> inhalable particulate matter	TWA: 3.5 mg/m <sup>3</sup> (vacated) TWA: 3.5 mg/m <sup>3</sup>	IDLH: 1750 mg/m <sup>3</sup> TWA: 3.5 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> Carbon black in presence of Polycyclic aromatic hydrocarbons PAH
Paraffin wax 8002-74-2	TWA: 2 mg/m <sup>3</sup> fume	(vacated) TWA: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> fume
Silicon Dioxide (amorphous) 7631-86-9	No data available	(vacated) TWA: 6 mg/m <sup>3</sup> <1% Crystalline silica TWA: 20 mppcf : (80)/(% SiO <sub>2</sub> ) mg/m <sup>3</sup> TWA	IDLH: 3000 mg/m <sup>3</sup> TWA: 6 mg/m <sup>3</sup>

### Appropriate engineering controls

**Engineering controls** Good general ventilation should be sufficient under normal use.

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**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	If there is a risk of contact: Safety goggles.
<b>Hand protection</b>	If there is a risk of contact: Protective gloves.
<b>Skin and body protection</b>	If there is a risk of contact: Long sleeved clothing and long pants.
<b>Respiratory protection</b>	Face Mask. In case of large spillages: Wear suitable respiratory protective equipment.
<b>Environmental exposure controls</b>	Avoid release to the environment.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	
Physical state	Solid Powder
Color	black
<b>Odor</b>	Odorless
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not applicable	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	Not applicable	
Flash point	Not applicable	
Evaporation rate	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	Not applicable	
Vapor density	Not applicable	
Relative density	No data available	None known
Water solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	Not applicable	
Dynamic viscosity	Not applicable	
Explosive properties	Explosive limits of toner particles suspended in air approximately equal to that of coal dust	No information available.
<b>Oxidizing properties</b>	No information available	

**Other Information**

<b>Softening point</b>	No information available
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<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No information available.
<b>Conditions to avoid</b>	Keep away from heat. Avoid friction, sparks, or other means of ignition
<b>Incompatible materials</b>	Strong oxidizing agents
<b>Hazardous decomposition products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Nitrogen oxides (NO <sub>x</sub> ).

## 11. TOXICOLOGICAL INFORMATION

### Product Information

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

The following values are calculated based on chapter 3.1 of the GHS document .

<b>ATEmix (dermal)</b>	5,165.20 mg/kg
<b>Skin corrosion/irritation</b>	Non-irritant (OECD 404 method)
<b>Serious eye damage/irritation</b>	Minimal irritant to the eye (OECD 405 method)
<b>Respiratory or skin sensitization</b>	It is not a skin sensitizer (OECD 429 method)
<b>Germ cell mutagenicity</b>	AMES test : Negative (OECD 471 method)
<b>Carcinogenicity</b>	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

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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

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Carbon Black (bound) 1333-86-4	-	-	-	5600: 24 h Daphnia magna mg/L EC50
Silicon Dioxide (amorphous) 7631-86-9	440: 72 h Pseudokirchneriella subcapitata mg/L EC50	5000: 96 h Brachydanio rerio mg/L LC50 static	-	7600: 48 h Ceriodaphnia dubia mg/L EC50

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Other adverse effects** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Waste from residues/unused products** 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.

**14. TRANSPORT INFORMATION**

**DOT** Not regulated

**TDG** Not regulated

**MEX** Not regulated

**ICAO (air)** Not regulated

**IATA** Not regulated

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<u>IMDG</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

#### Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

### US Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and





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Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

## U.S. State Right-to-Know Regulations

### US State Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Carbon Black (bound) 1333-86-4	X	X	X
Paraffin wax 8002-74-2	X	X	X

## U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

## **16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<u>NFPA</u>	Health hazards 0	Flammability 0	Instability 0	Section 9: Physical and chemical properties -
<u>HMIS</u>	Health hazards 0	Flammability 0	Physical hazards 0	Personal protection X

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Revision Note No information available.

### Disclaimer

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).

**End of Safety Data Sheet**