



MATERIAL SAFETY DATA SHEET

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Product Name

Issue Date : Feb. 13, 2004

TN-04BK Toner

MSDS No. : 101033-02

Section 1 - Chemical product and company identification

Product name: TN-04BK Toner

Material name: TUFTONE HOK

This product is black toner in a cartridge for Brother Industries, Ltd. color laser printers.

The cartridge prevents the toner from spilling in normal use.

Manufacturer: Brother Industries, Ltd.

Information & Document Company

1-1-1, Kawagishi, Mizuho-ku, Nagoya 467-8562, Japan

Telephone (for information): +81-52-824-2545

Importer in USA: Brother International Corporation

100 Somerset Corporate Boulevard, P.O. Box 6911, Bridgewater, NJ 08807-0911, USA

Telephone (for information): 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): 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

7 Khartoum Road, North Ryde, N.S.W. 2113, Australia

Telephone (for information): 02-9887-4344

We do not provide 24 hour cover for information contact.

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

Section 2 - Composition / information on ingredients

Chemical name: Black Toner (Mixture)

Ingredients:

CAS#	Components	OSHA PEL	ACGIH TLV	%Wt.
—	Polyester Resin	—	—	85 <
—	Wax	—	—	10 >
1333-86-4	Carbon Black (bound)	3.5 mg/m ³	3.5 mg/ m ³	8 >
—	Organic Salt	—	—	5 >
—	Amorphous Silica	15 mg/m ³ *	10 mg/ m ³ *	4 >

(*) for total dust

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Section 3 - Hazards identification**Most important hazards****Adverse human health effects:**

To the best of our investigation, no special hazards have to be mentioned.

Environmental effects:

To the best of our investigation, no information about adverse effect in the environment is available.

Physical and chemical hazards:

This material is not dangerous in case of usual handling.

May cause risk of dust explosion.

Section 4 - First aid measures**In case of inhalation:**

Remove person to fresh air. If necessary, seek medical attention.

In case of skin contact:

Wash material off the skin with plenty of water and soap. If necessary, seek medical attention.

In case of eye contact:

Immediately hold eyelids open and flush with a stream of water for at least 15 minutes.

If necessary, seek medical attention.

In case of ingestion:

Seek medical attention. Never give anything by mouth to an unconscious person.

If possible, rinse out mouth and give one or two glasses of water or milk to drink.

Section 5 - Fire fighting measures**Extinguishing media:**

Water spray, powder

Not suitable extinguishing media:

No information available

Specific Hazards:

May produce irritating or toxic gasses in a fire.

Specific Methods:

Keep away from sources of ignition and use appropriate extinguishing media.

Fight fire from upwind position, if possible.

Protection of firefighters:

Use goggles in combination with dust mask, and other protections as appropriate to situation.

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Section 6 - Accidental release measures**Personal precautions:**

In order to avoid breathing particles, minimize generation of toner dust.

See Section 8 "Personal Protection" for large spills.

Environmental precautions:

Do not discharge into the drains, surface water or ground water directly.

Methods for cleaning up:

Sweep the spilt toner or remove it with a vacuum cleaner, and transfer into 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.

Prevention of Secondary Hazards:

No information available.

Section 7 - Handling and storage**Handling****Precautions:**

Keep out of the reach of children.

Safe handling advice:

Handle in well-ventilated areas.

In case of accidental spill, try not to disperse the particles. Avoid prolonged inhalation of excessive dust and contacting eyes. Wash hands and face and gargle after handling.

Storage**Storage conditions:**

Keep out of the reach of children. Keep container tightly closed.

Protect from sun. Store in a well-ventilated room (under 40C).

Packaging materials:

No special information available. (The cartridge and transport packing are provided to prevent toner spillage.)

Section 8 - Exposure controls / personal protection**Engineering measures**

Good general ventilation should be sufficient under normal use.

Limit values**Carbon Black**

ACGIH (TLV): 3.5 mg/m³

OSHA (PEL): 3.5 mg/m³

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Amorphous Silica

ACGIH (TLV): 10 mg/m³ (for total dust); See Section 2.

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:

Respiratory protection:	Use dust mask, as appropriate to situation.
Hand protection:	Rubber gloves
Eye protection:	Safety glasses with side shield (Safety goggles or Face shield)
Skin and body protection:	Full-body suit

Section 9 - Physical and chemical properties
Physical states

Form:	Pulverized powder
Color:	Black
Odor:	Odorless
pH:	Not applicable

Specific temperatures/temperature ranges at which changes in physical state occur

Boiling point:	No data available
Melting point:	No data available
Decomposition temperature:	No data available
Flash Point:	Not applicable
Autoignition temperature:	No data available

Explosion properties

Explosion:	Upper limit: No data available	Lower limit: No data available
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Vapor pressure:	No data available
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Vapor density:	No data available
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Density:	1.2 g/ml (20C) (68F)
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Solubility

Water solubility:	Insoluble
Solvent solubility:	Partially soluble in toluene, chloroform and tetrahydrofurane

Octanol/water partition coefficient:	No data available
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Other data:	No data available
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Section 10 - Stability and reactivity

Stability:	Stable in general
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Hazardous reactions:	Stable
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Conditions to avoid:	No information available
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Materials to avoid:	No information available
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Hazardous decomposition products: No information available

Others: No information available

Section 11 - Toxicological information

Acute oral toxicity: LD50 >2500mg/kg (rat)

Acute inhalation toxicity: 5.05 mg/l (rat): No death

Local effects

Skin irritation: Non-irritant (undiluted: P.I.I.=0 (rabbit))

Eye irritation: Practically non-irritating
(undiluted, unwashed eyes: MAS=1.3 (rabbit))

Sensitization: Negative

Carcinogenicity: No information available

IARC: 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.

NTP: Not established

OSHA: Not established

Mutagenicity: Negative (Ames test)

Other data: No information available

Section 12 - Ecological information

Ecotoxicity (aquatic): No information available

Persistence and degradability: No information available

Bioaccumulation: No information available

Other data: No information available

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Section 13 - Disposal considerations

Review "Handling and storage (Section 7)"

Dispose of waste in accordance with local, state and federal regulations.

Section 14 - Transportation information

DOT hazards class: Not applicable

UN class / UN number: Not applicable

Precautions: Review "Accidental release measures (Section 6)"

Review "Handling and storage (Section 7)"

Ensure containers without breakage or leakage.

Ensure containers tightly fixed.

Follow all regulations in your country or region.

Section 15 - Regulatory information

Inventories:	ENCS (Japan)	Yes
	TSCA (USA)	Yes
	EINECS/ELINCS (EU)	Yes
	AICS (Australia)	Yes

Section 16 - Other information

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.

End of MSDS No. 101033-02