

SAFETY DATA SHEET

Product Name
TN-670, TN-700, TN-4100,
TN-5500, TN-4150 Toner

Version Number: 3
SDS No.: PT462-05--EUUSOTHER

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: TN-670, TN-700, TN-4100, TN-5500, TN-4150 Toner

Material Identification: PT462

Use: 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.

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

Emergency Phone No.: 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

2. HAZARDS IDENTIFICATION

Potential health effects from overexposure: Routes of exposure: skin contact, eye contact, inhalation (Dust).
Minimal respiratory tract irritation may occur as with large amounts of any non-toxic dust. Thermal decomposition will evolve toxic and irritant vapors.

Combustion products: See Section: 10.

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Potential Health Effects:

Routes of exposure:
skin contact, eye contact, inhalation (Dust).

Inhalation (Dust). For large quantities:
May cause irritation to the respiratory system.
Effects and Symptoms - Increased difficulty in breathing. Sneezing. Coughing.
Use this product as intended in order to prevent the dust leakage that leads to exposure.

Skin Contact:
No specific effects and/or symptoms have been reported or known.

Eye Contact:
May cause eye irritation. Use this product as intended in order to prevent the dust leakage that leads to exposure.

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

Special Hazards:

May form explosible dust clouds in air.

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name: Styrene-acrylate Toner (Mixture).

Chemical Name	CAS No.	EC No.	%W/W	EU Hazard Symbols	EU Risk Phrases
Styrene-acrylate copolymer	25767-47-9	Not applicable.	80 - 90	Not classified.	Not classified.
Carbon Black (bound)	1333-86-4	215-609-9	5 - 7	Not classified.	Not classified.
Fatty Acid Ester	Confidential	Confidential	4 - 6	Not classified.	Not classified.
PMMA	9011-14-7	Not applicable.	0.5 - 1.5	Not classified.	Not classified.
Silicon Dioxide (amorphous)	7631-86-9	231-545-4	< 1	Not classified.	Not classified.

4. FIRST AID MEASURES

General: 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 200-300 ml (half a pint) of water to drink.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Extinguish preferably with dry chemical, Carbon dioxide, Water spray, Foam.

Unsuitable Extinguishing Media: Do not use water jet.

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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: May form explosible dust clouds in air. Combustion products: See Section: 10.

Explosion limits: Lower = 40 g/m³

6. ACCIDENTAL RELEASE MEASURES

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

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

Methods for 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 clean-up. 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.

DISPOSAL CONSIDERATIONS - See Section: 13.

7. HANDLING AND STORAGE

Handling: Keep out of the reach of children. Avoid dust generation. Avoid inhalation of high concentrations of dust. Avoid contact with eyes.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

SUBSTANCE	CAS No.	OSHA PEL	ACGIH TLV	EU IOELV
Carbon Black	1333-86-4	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA	None.
Silicon Dioxide (amorphous)	7631-86-9	20mppcf 80(mg/m ³)/%SiO ₂	None.	None.

Additional Information: USA OSHA PEL (TWA): 15 mg/m³ (Total Dust) 5mg/m³ (Respirable Fraction).
ACGIH TLV (TWA): 10 mg/m³ (Inhalable particles) 3 mg/m³ (Respirable particles).

Environmental Exposure Controls: Not normally required.

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

Personal Protection: 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/face: Goggles.
Skin: Protective gloves.
Respirators: Dust mask. (Large spillages: Respirator).

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9. PHYSICAL AND CHEMICAL PROPERTIES

pH (Value):	Not applicable.
Form:	Powder.
Color:	Black.
Odor:	Odorless.
Boiling Point (°C):	Not applicable.
Melting Point (°C):	110 (Softening Point (°C)).
Vapor Pressure (Pascal):	Not applicable.
Specific Gravity:	1.15 (H ₂ O=1).
Viscosity (mPa.s):	Not applicable.
Flash Point (°C):	Not applicable.
Explosive Properties:	Explosion limits lower - 40 g/m ³ .
Flammable Powder Class:	No data.
Vapor Density (Air=1):	Not applicable.
Partition Coefficient (n-Octanol/water):	No data.
Relative Evaporation Rate (Butyl Acetate=1):	Not applicable.
Oxidizing Properties:	No data.
Solubility (Water):	Negligible.
Solubility (Other):	No data.

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable.
Conditions to avoid:	Keep at temperature not exceeding: 200 °C. Avoid friction, sparks, or other means of ignition.
Materials to avoid:	Strong oxidizing agents.
Hazardous Decomposition Product(s):	Contains: Carbon monoxide, Carbon dioxide and Nitrogen oxides.
Hazardous polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

This assessment is based on information available on similar products.

Ingestion:	Acute LD ₅₀ > 2000mg/kg (Method: OECD#423)
Inhalation:	Acute LC ₅₀ > 5mg/l (Method: OECD#403)
Skin Contact:	Non-irritant. (Method: OECD#404)
Eye Contact:	Slight irritant to the eye. (Method: OECD#405)
Mutagenicity:	Negative. (Method: OECD#471 / Ames test)
Skin sensitization:	It is not a skin sensitizer. (Method: OECD#429)

Carbon Black: Carcinogenicity Information.
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.

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

12. ECOLOGICAL INFORMATION

No data available on the adverse effects of this product on the environment.

Toxicity: No data.

Environmental Fate and Distribution: No data.

Persistence and Degradation: No data.

13. DISPOSAL CONSIDERATIONS

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 compliance with Federal, State and local regulations.

14. TRANSPORT INFORMATION

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

UN No.: None.

Class: None.

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

15. REGULATORY INFORMATION

USA: All chemicals in this product comply with TSCA rules and regulations including TSCA Section 5 (Inventory Rules).

EU: Not classified as dangerous for supply/use. (1999/45/EC, 67/548/EEC)
Hazard Symbol, Risk Phrases, Safety Phrases: None assigned.

Canada: WHMIS: Not applicable. (Manufactured article)

16. OTHER INFORMATION

The following sections contain revisions or new statements: All sections.

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 11th 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
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 (ACGIH)
TSCA: Toxic Substances Control Act (US)
WHMIS: Workplace Hazardous Material Information System (Canada)