

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417,
TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435,
TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467,
TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485,
TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500,
TN-3510, TN-3512, TN-3520, TN-4638 Toner

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

1.1 Product identifier

Product name TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417, TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435, TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467, TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485, TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500, TN-3510, TN-3512, TN-3520, TN-4638 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--877-276-8437

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

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417,
TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435,
TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467,
TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485,
TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500,
TN-3510, TN-3512, TN-3520, TN-4638 Toner

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).

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417, TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435, TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467, TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485, TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500, TN-3510, TN-3512, TN-3520, TN-4638 Toner

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 | - | 65-80 | Not classified | Not classified |
| Carbon Black (bound) | 1333-86-4 | 215-609-9 | 4-6 | Not classified | Not classified |
| Ester wax | ** | - | 10-20 | Not classified | Not classified |
| Resin | ** | - | 0.5-3 | Not classified | Not classified |
| PMMA | 9011-14-7 | - | 1-4 | Not classified | Not classified |
| Styrene-acrylate Resin | ** | - | 0.5-2.5 | Not classified | Not classified |
| Silicon Dioxide (amorphous) | 844491-94-7 | 430-570-1 | <0.5 | Not classified | Not classified |
| Silicon Dioxide (amorphous) | 112945-52-5 | 231-545-4 | <1 | Not classified | Not classified |
| Silicon Dioxide (amorphous) | ** | - | <1.5 | Not classified | Not classified |

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

** CONFIDENTIAL

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.

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417,
TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435,
TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467,
TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485,
TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500,
TN-3510, TN-3512, TN-3520, TN-4638 Toner

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.

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417,
TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435,
TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467,
TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485,
TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500,
TN-3510, TN-3512, TN-3520, TN-4638 Toner

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 ³ inhalable fraction |
| OSHA PEL | TWA: 3.5 mg/m ³ |
| Chemical Name | Silicon Dioxide (amorphous) 844491-94-7 |
| ACGIH TLV | - |
| OSHA PEL | 20mppcf 80(mg/m ³)/%SiO ₂ |
| European Union | - |
| Chemical Name | Silicon Dioxide (amorphous) 112945-52-5 |
| ACGIH TLV | - |
| OSHA PEL | 20mppcf 80(mg/m ³)/%SiO ₂ |
| European Union | - |
| Austria | TWA: 4 mg/m ³ |

Additional information

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

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417, TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435, TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467, TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485, TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500, TN-3510, TN-3512, TN-3520, TN-4638 Toner

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 | 1.15 (H ₂ O) |
| 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. |

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417,
TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435,
TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467,
TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485,
TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500,
TN-3510, TN-3512, TN-3520, TN-4638 Toner

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

| | |
|--------------|---|
| Inhalation | Acute LC ₅₀ (4 hours) > 5.08 mg/l (The highest technically achievable concentration) (Method OECD#436) |
| Eye contact | No information available. |
| Skin contact | No information available. |
| Ingestion | Acute LD ₅₀ > 2000 mg/kg (Method OECD#420) |

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

Serious eye damage/irritation Mild 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.

Product name:

TN-820, TN-850, TN-880, TN-890, TN-3400, TN-3410, TN-3415, TN-3417, TN-3420, TN-3422, TN-3425, TN-3428, TN-3429, TN-3430, TN-3435, TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467, TN-3470, TN-3472, TN-3475, TN-3478, TN-3479, TN-3480, TN-3485, TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500, TN-3510, TN-3512, TN-3520, TN-4638 Toner

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 ₅₀ : >5600 mg/L 24 h (Daphnia magna) |

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.

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.

Product name:

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TN-3437, TN-3440, TN-3442, TN-3448, TN-3449, TN-3465, TN-3467,
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TN-3487, TN-3490, TN-3492, TN-3495, TN-3498, TN-3499, TN-3500,
TN-3510, TN-3512, TN-3520, TN-4638 Toner

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.

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)
DGR: Dangerous Goods Regulations
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)