

Revision Date: 28-May-2021

Issuing Date: 04-Apr-2016

Revision Number: 4

Product Name: TN-213BK, TN-223BK, TN-233BK, TN-243BK, TN-253BK, TN-263BK,
TN-273BK, TN-283BK, TN-293BK, TN-217BK, TN-227BK, TN-237BK, TN-247BK,
TN-267BK, TN-277BK, TN-287BK toner

Safety data sheet number: PT405-02

1. Identification

Product identifier

Product Name TN-213BK, TN-223BK, TN-233BK, TN-243BK, TN-253BK, TN-263BK, TN-273BK,
TN-283BK, TN-293BK, TN-217BK, TN-227BK, TN-237BK, TN-247BK, TN-267BK,
TN-277BK, TN-287BK toner

Other means of identification

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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 manufacturer or importer

Manufacturer

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

Importer

Brother International (Aust.) Pty. Ltd.
ACN 001 393 835 Unit 2/51 Eastern Creek Drive Eastern Creek, NSW 2766, Australia
Telephone (for information): +61-2-9887-4344

For further information, please contact

Contact Point Product Safety Department

E-mail address sds.info@brother.co.jp

Emergency telephone number

Emergency telephone number CHEMTREC +61-290372994 (Australia)
CHEMTREC +1-703-527-3887 (International)
The National Poisons Centre, New Zealand: 0800 764 766 (0800 POISON)

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2. Hazard(s) identification

GHS Classification

Not classified

Label elements

Not classified

Hazard statements

Not classified

Other hazards which do not result in classification

General Hazards No information available

3. Composition/information on ingredients

Substance

Not applicable

Mixture

Chemical name	CAS No	Weight-%
Styrene-acrylate-copolymer	25767-47-9	65-75
Fatty acid ester	**	8-18
Carbon Black (bound)	1333-86-4	4-14
Styrene-acrylate Resin	**	<7
PMMA	9011-14-7	1-5
Silicon dioxide (amorphous)	112945-52-5	<3
Silicon Dioxide (amorphous)	7631-86-9	<3
Silicon dioxide (amorphous)	844491-94-7	<3
Zinc stearate	557-05-1	<0.2

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4. First-aid measures

Description of first aid measures

General advice	If symptoms persist, call a physician.
Emergency telephone number	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
Inhalation	Remove to fresh air. 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:	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth immediately and drink plenty of water. Get immediate medical advice/attention.

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 Skin contact: : Repeated and/or prolonged skin contact may cause irritation Ingestion: May cause stomach ache. Unlikely route of exposure
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-fighting measures

Suitable Extinguishing Media

Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray or regular foam
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Unsuitable extinguishing media	Do not use water jet.
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Specific hazards arising from the chemical	May form explosive dust clouds in air
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Special protective actions for fire-fighters

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

Environmental precautions

Do not flush into surface water or sanitary sewer system.

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.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal

Precautions to prevent secondary hazards

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.

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General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from oxidizing agents.

Incompatible materials Strong oxidizing agents

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	Australia	ACGIH TLV
Carbon Black (bound) 1333-86-4	3 mg/m ³	TWA: 3 mg/m ³ inhalable particulate matter
Silicon Dioxide (amorphous) 7631-86-9	2 mg/m ³	
Zinc stearate 557-05-1	10 mg/m ³	TWA: 10 mg/m ³ inhalable particulate matter TWA: 3 mg/m ³ respirable particulate matter TWA: 10 mg/m ³ inhalable particulate matter except stearates of toxic metals TWA: 3 mg/m ³ respirable particulate matter except stearates of toxic metals

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye/face protection If there is a risk of contact.. Safety goggles.

Skin and body protection If there is a risk of contact., Apron, Boots

Hand protection If there is a risk of contact.. Protective gloves.

Respiratory protection Use appropriate respiratory protection.

Environmental exposure controls Avoid release to the environment.

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9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Powder
Appearance	No information available
Color	black
Odor	Odorless.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not applicable	None known
pH (as aqueous solution)	Not applicable	
Melting point / freezing point	No data available	None known
Boiling point / boiling range	Not applicable	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	Not applicable	None known
Vapor density	Not applicable	None known
Relative density	1.15	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	None known
Dynamic viscosity	Not applicable	None known
Explosive properties	No information available	Explosive limits of toner particles suspended in air approximately equal to that of coal dust
Oxidizing properties	No information available	
<u>Other Information</u>		
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

10. Stability and reactivity

Reactivity

Reactivity	No information available.
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Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions No information available.

Conditions to avoid

Conditions to avoid Keep away from heat. Avoid friction, sparks, or other means of ignition.

Incompatible materials

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides, Nitrogen oxides (NOx)

11. Toxicological information

Acute toxicity

Information on likely routes of exposure

Product Information

Inhalation Acute LC₅₀ > 5.20 mg/l/4h (OECD 436 method)

Eye contact No information available

Skin contact: No information available

Ingestion Acute LD₅₀ > 2000 mg/kg (OECD 420 method)

Symptoms No information available.

Numerical measures of toxicity - Product Information

No information available

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Unknown acute toxicity

- 98.85 % of the mixture consists of ingredient(s) of unknown toxicity
- 88.85 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 98.85 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 98.85 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
- 98.85 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Carbon Black (bound)	> 15400 mg/kg (Rat)	-	> 4.6 mg/m ³ (Rat) 4 h
Silicon dioxide (amorphous)	= 3160 mg/kg (Rat)	-	-
Silicon Dioxide (amorphous)	= 7900 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 58.8 mg/L (Rat) 4 h
Zinc stearate	> 10 g/kg (Rat)	> 2000 mg/kg (Rabbit)	> 200 mg/L (Rat) 1 h

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

- Skin corrosion/irritation** Non-irritant (OECD 404 method)
pH: Not applicable
- Serious eye damage/eye irritation** Minimal irritant to the eye (OECD 405 method)
pH: Not applicable
- Respiratory or skin sensitization** It is not a skin sensitizer (OECD 429 method)
- Germ cell mutagenicity** AMES test : Negative (OECD 471 method)
- 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
- Reproductive toxicity** No information available.
- STOT - single exposure** No information available.

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STOT - repeated exposure No information available.

Aspiration hazard No information available.

Potential health effects
 Eye : May cause slight irritation
 Skin : Prolonged exposure may cause skin irritation
 Ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
 Inhalation : Not an expected route of exposure Over exposure may cause respiratory irritation.

12. Ecological information

Ecotoxicity

Ecotoxicity

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Silicon Dioxide (amorphous)	EC50: =440mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =5000mg/L (96h, Brachydanio rerio)	-	EC50: =7600mg/L (48h, Ceriodaphnia dubia)

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Zinc stearate	1.2

Mobility

Mobility in soil No information available.

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Other adverse effects

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

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

National Regulations

Australia

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 4

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National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Zinc stearate - 557-05-1	10 tonne/yr Threshold category 1

International Inventories

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

International Regulations

Ozone-depleting substances (ODS) Not applicable

Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. Other information

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Revision Note

SDS sections updated : 1 , 3

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Key or legend to abbreviations and acronyms used in the safety data sheet

Legend SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	**	Trade secret
C	Carcinogen		

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet