

Revision Date: 28-May-2021

Issuing Date: 04-Apr-2016

Revision Number: 2

Product Name: TN-411BK, TN-413BK, TN-416BK, TN-419BK, TN-421BK, TN-423BK, TN-426BK, TN-431BK, TN-433BK, TN-436BK, TN-439BK, TN-441BK, TN-443BK, TN-446BK, TN-449BK, TN-451BK, TN-456BK, TN-459BK, TN-461BK, TN-466BK, TN-469BK, TN-471BK, TN-476BK, TN-491BK, TN-493BK, TN-499BK, TN-910BK Toner

Safety data sheet number: PT405-01

1. IDENTIFICATION

Product identifier

Product Name TN-411BK, TN-413BK, TN-416BK, TN-419BK, TN-421BK, TN-423BK, TN-426BK, TN-431BK, TN-433BK, TN-436BK, TN-439BK, TN-441BK, TN-443BK, TN-446BK, TN-449BK, TN-451BK, TN-456BK, TN-459BK, TN-461BK, TN-466BK, TN-469BK, TN-471BK, TN-476BK, TN-491BK, TN-493BK, TN-499BK, TN-910BK Toner

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use No information available

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 +1-800-424-9300 (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

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Safety data sheet number: PT405-01

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

Other Information

Unknown acute toxicity

88.85 % of the mixture consists of ingredient(s) of unknown toxicity

88.85 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

88.85 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

88.85 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

88.85 % 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	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	*

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

** Trade secret

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Safety data sheet number: PT405-01

4. FIRST AID MEASURES

Description of first aid measures

General advice	If symptoms persist, call a physician.
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	Dry chemical, CO ₂ , 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.

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Safety data sheet number: PT405-01

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 entry into waterways, sewers, basements or confined areas.

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

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.

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Safety data sheet number: PT405-01

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 ³ inhalable particulate matter	TWA: 3.5 mg/m ³ (vacated) TWA: 3.5 mg/m ³	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH
Silicon Dioxide (amorphous) 7631-86-9	No data available	TWA: 50 µg/m ³ excludes construction work, agricultural operations, and exposures that result from the processing of sorptive clays (vacated) TWA: 6 mg/m ³ <1% Crystalline silica TWA: 20 mppcf : (80)/(% SiO ₂) mg/m ³ TWA	IDLH: 3000 mg/m ³ TWA: 6 mg/m ³
Zinc stearate 557-05-1	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	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust

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.

Hand protection

If there is a risk of contact: Protective gloves.

Skin and body protection

If there is a risk of contact: Apron, Boots

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Safety data sheet number: PT405-01

Respiratory protection	Use appropriate respiratory protection.
Environmental exposure controls	Avoid release to the environment.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Physical state	Solid Powder
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	

Other Information

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

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Safety data sheet number: PT405-01

10. STABILITY AND REACTIVITY

Reactivity	No information available
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Keep away from heat. Avoid friction, sparks, or other means of ignition.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Carbon oxides, Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Product Information

Inhalation	Acute LC ₅₀ > 5.20 mg/l/4h (OECD 436 method)
Eye contact	No information available
Skin contact:	No information available
Ingestion	Acute LD ₅₀ > 2000 mg/kg (OECD 420 method)
Skin corrosion/irritation	Non-irritant (OECD 404 method) pH: Not applicable
Serious eye damage/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)

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Safety data sheet number: PT405-01

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.

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Silicon Dioxide (amorphous) 7631-86-9	EC50: =440mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =5000mg/L (96h, Brachydanio rerio)	-	EC50: =7600mg/L (48h, Ceriodaphnia dubia)

Persistence and degradability

No information available.

Bioaccumulation

There is no data for this product.

Component Information

Chemical name	Partition coefficient
Zinc stearate 557-05-1	1.2

Other adverse effects

No information available.

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Safety data sheet number: PT405-01

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.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Zinc stearate 557-05-1	Toxic

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO (air)</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

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Safety data sheet number: PT405-01

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDL	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/NDL - 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 contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zinc stearate 557-05-1	-	X	-	-

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Safety data sheet number: PT405-01

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 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.

US State Regulations

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

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

Issuing Date 04-Apr-2016

Revision Date May-28-2021

Revision Note SDS sections updated : 1 , 3

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