Product Name Issue Date : Feb. 14, 2005

TN-3030/TN-3060/TN-540/TN-570 Toner MSDS No. : ZL2eT002

Section 1 - Chemical product and company identification

Product name: TN-3030 Toner, TN-3060 Toner, TN-540 Toner and TN-570 Toner

Material name: ZEOGLOBULE PT462

These products are black toner in a cartridge for Brother Industries, Ltd. laser printers and fax receivers. The cartridge prevents the toner from spilling in normal use.
The cartridge prevents the toner from spilling in normal use.

Manufacturer: Brother Industries, Ltd.
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Importer in USA: Brother International Corporation
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Importer in Europe: Brother International Europe Ltd.
Brother House, 1 Tame Street, Guide Bridge, Audenshaw, Manchester M34 5JE, UK
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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: Styrene-acrylate Toner (Mixture)

Ingredients:

CAS#	Components	OSHA PEL	ACGIH TLV	%Wt.
25767-47-9	Styrene-acrylate Copolymer	—	—	84
1333-86-4	Carbon Black (bound)	3.5 ppm TWA	3.5 ppm TWA	5-7
75587-84-7	Fatty Acid Ester	—	—	4-6
7631-86-9	Silicon Dioxide (amorphous)	—	—	1-3
9011-14-7	PMMA	—	—	<1

Section 3 - Hazards identification

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EMERGENCY OVERVIEW

These products are the black colored toner with an odorless. As supplied, these products are not expected to cause any adverse health or physical effects in how to use usual. Unintended operations may produce dust leakage that may cause eye and respiratory tract irritation. Toxic combustion products may be released under fire conditions.

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Potential health effects from overexposure:

Possible routes of entry include skin/eye contact and dust inhalation. Minimal respiratory tract irritation may occur as with large amounts of any non-toxic dust. Overexposure to decomposition or combustion products may cause irritation of eyes, skin and respiratory tract. See Section 10 for information on combustion products.

Section 4 - First aid measures

If irritation occurs or persists from any route of exposure, remove the affected individual from the area and seek medical assistance.

Eye contact:

Eye irritation will be caused. If contacted, flush eyes with running water for 15 minutes with eyelids open. Consult an eye-doctor.

Skin contact:

No symptoms will appear. If contacted, remove contaminated clothes and wash skin with soap and water.

Particulate inhalation:

Lung irritation, difficult breathing, sneezing, coughing will be caused. If inhaled, remove the sufferer to flesh air and seek medical assistance immediately.

Ingestion:

Stomach irritation will be caused. If ingested, seek medical assistance immediately.

Section 5 - Fire fighting measures

Extinguishing media:

Dry chemicals, CO_2, water spray or foam are recommended medial.

Special firefighting procedures:

Do not use straight water, high-pressure water or water stream 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:

Thermal decomposition of organic components may result in occurrence of oxides of carbon. Special precautions must be taken if (like most organic materials in powder form) it can form explosive mixtures when dispersed in air. Toxic gasses may be formed upon combustion and represents a hazard to firefighters. See Section 10 for additional information on combustion products.

Explosion limits: Lower = 40 g/m3

Section 6 - Accidental release measures

Sweep the spilt toner or remove it with a vacuum cleaner, and transfer into the 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. Residue can be removed with soap and cold water. Clothes may be washed or dry cleaned after removal of loose toner.

Section 7 - Handling and storage

Handling:

Keep out of the reach of children. In case of accidental spill, try not to disperse the particles. Avoid prolonged inhalation of excessive dust and contact eyes. Use with adequate ventilation. Use the mask, which recommended preventing dust and coarse particulate.

Storage:

Keep out of the reach of children. Keep container tightly closed. Keep away from contact with oxidizing materials. Store in a cool and dry place away from direct light to maintain quality.

Section 8 - Exposure controls / personal protection

Exposure limit value:

See Section 2.

Ventilation:

Good general ventilation should be sufficient under normal use.

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:

Eye/face: Safety goggles
Skin: Protective gloves recommended
Respiratory: Dust mask (Respirator for large spill)

Section 9 - Physical and chemical properties

Specific Gravity (H_2O=1):	1.15
Solubility in water:	Negligible
Appearance and odor:	Black powder and odorless
Melting point:	120 C

Section 10 - Stability and reactivity

Stability:	Stable
Hazardous polymerization:	Will not occur
Conditions to avoid:	Overheating (do not expose to temperature above 200 C) and contact with ignition sources such as open flames, sparks, electrical arcs and static discharge sources.
Materials to avoid:	Avoid exposure to strong oxidizers or reducing agents.
Hazardous decomposition products:	The gas generated by heat decomposition may contain carbon monoxide, carbon dioxide and Nitrogen.

Section 11 - Toxicological information

Products

Acute oral toxicity:	LD_{50} >2000mg/kg (rat)
Acute inhalation toxicity:	LC_{50} > 5 mg/l (rat)
Skin irritation:	Non-irritant (rabbit)
Eye irritation:	Very slight irritant (rabbit)
Mutagenicity:	Negative (Ames test)

Carbon black

Carcinogenicity:

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.

Section 12 - Ecological information

No information available

Section 13 - Disposal considerations

This material is not a hazardous waste per Federal Regulation 40 CFR 261 when disposed.
Consult with the appropriate State and Local Waste Authorities for additional information.
Incinerate only in a closed container.

Section 14 - Transportation information

For U.S.A. transportation purposes, this product is not defined or designated as a hazardous material by the U.S. Department of Transportation under Title 49 of the Code of Federal Regulations.

Section 15 - Regulatory information

Inventories:		
	JCSCL (Japan)	Yes
	TSCA (USA)	Yes
	EINECS/ELINCS (EU)	Yes

Section 16 - Other information

Hazard rating system classification

	NFPA	HMIS	Key: 0-least; 1-slight; 2-moderate; 3-high; 4-extreme
Health	1	1	National Fire Protection Association rating identifies hazards during a fire emergency. Hazardous Materials Identification System rating applies to products as packaged.
Flammability	1	1	
Reactivity	0	0	

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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. ZL2eT002