TOSHIBA

MATERIAL SAFETY DATA SHEET
TOSHIBA e-STUDIO400P
PRINT CARTRIDGE : P/N12A7448

Revision Date: 12/20/02

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SECTION 1 - CHEMICAL PRODUCTS & COMPANY IDENTIFICATION

Product Name: Toshiba e-STUDIO400P Print Cartridge
Part Number: 12A7448
Additional Part Numbers: 12A7449
Chemical Family: Toner Cartridge
Product Use: e-STUDIO400P Printers
Company: Toshiba America Business Solutions, Inc.
2 Musick
Irvine, CA 92618-163
EMERGENCY TELEPHONE: 800-424-9300

SECTION 2 - GENERAL COMPOSITION OF TONER CONTAINED IN CARTRIDGE

COMPONENT	PERCENT (wt.)	CAS#	OSHA PEL	ACGIH TLV
Polyester Resin	65 - 80	(1)(2)	(3)	(3)
Carbon Black	1-10	1333-86-4	3.5 mg/m^3(4)	3.5 mg/m^3(4)
Iron Oxide	6-12	1317-61-9 12227-89-3	(3)	5 mg/m^3 (as iron)
Polymer Wax	1-5	(1)(5)	(3)	(3)
Amorphous Silica (Modified)	1-3	(1)(6)	(3)	(3)

Notes: (1) Trade secret or patented molecule.
(2) New Jersey Trade Secret Registration Number 80100286-6001P.
(3) Specific work place exposure limits have not been established.
(4) Total dust, measured as carbon black.
(5) New Jersey Trade Secret Registration Number 80100451-5016.
(6) New Jersey Trade Secret Registration Number 80100451-5015.

SECTION 3 - HAZARDS IDENTIFICATION

Primary Routes of Entry: Inhalation of dust, skin contact.
Signs and Symptoms of Exposure: Large amounts of toner on skin or mucous membranes (mouth, eyes, or nose) may cause discomfort.
Medical Conditions Aggravated by Exposure: None known at intended levels of use.
Physical Hazards: As with most finely divided dusts, an explosion is possible when an extremely high concentration of dust and an ignition source are present. Not a hazard under normal conditions of use.

POTENTIAL HEALTH EFFECTS:

Inhalation:	Short Term Exposure -	Testing and/or information on this or similar toners, or on the constituents of this toner indicate low inhalation toxicity. As with exposure to high concentrations of any dust, minimal respiratory tract irritation may occur if excessive amounts of toner dust are inhaled. Exposure not probable with intended use.
	Long Term Exposure -	No adverse chronic effects known at intended level of use. Respirable size particles may collect in lungs and show up on X-rays (iron oxide). No adverse changes in the lungs result from this accumulation. Exposure not probable with intended use.
Skin Contact:	Short Term Exposure -	Testing and/or information on this or similar toners, or on the constituents of this toner indicate this toner is not a skin irritant and is of low dermal toxicity. Toner is not a dermal sensitizer.
	Long Term Exposure -	Rare individuals may note skin rash with repeated contact. Exposure not probable with intended use.
Eye Contact:	Short Term Exposure -	Toner may act as a mechanical irritant.
	Long Term Exposure -	No adverse chronic effects known. Exposure not probable with intended use.
Ingestion:	Short Term Exposure -	Testing and/or information on this or similar toners, or on the constituents of this toner indicate low oral toxicity. Exposure not probable with intended use.
	Long Term Exposure -	No adverse chronic effects known. Exposure not probable with intended use.

SECTION 4 - FIRST AID MEASURES

Inhalation: If symptoms, such as shortness of breath, are experienced, remove source of contamination or move to fresh air. Seek medical advice if symptoms persist.
Skin Contact : Wash affected area with soap and water. Should irritation occur, obtain medical advice.
Eye Contact: Do not rub eyes. Flush immediately with plenty of water. Remove contact lenses and continue flushing for at least 15 minutes. Seek medical attention if irritation develops and persists.
Ingestion: Immediately wash mouth out with plenty of water. If irritation occurs, seek medical advice.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not applicable Autoignition: Not available
Extinguishing Media: CO_2, water spray, dry chemical, or foam. Avoid full water jet.
Firefighting: NIOSH approved self contained breathing apparatus may be required if large numbers of cartridges are involved.
Fire and Explosion Hazard: Like many finely divided materials, toner dust in high concentrations can form an explosive mixture in air which, if ignited, could result in a dust explosion.
Hazardous Combustion Products: Carbon dioxide, carbon monoxide, and low molecular weight organics.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Occupational Spill: If a dust cloud is possible due to a spill, remove all sources of ignition such as open sparks, flames or static discharge to prevent the ignition of the dust. Minimize dust generation during clean up. Sweep up spill with non-metallic broom and dustpan. Contain for disposal. To avoid possible dust explosion, do not use vacuum cleaners when large amounts of toner are involved in a spill. Oil permeated sweeping compound may assist in the cleanup of toner spilled on nonporous surfaces. Avoid inhalation of dust.

SECTION 7 - HANDLING AND STORAGE

To avoid damage to cartridge and accidental contact with toner - Keep out of reach of small children. Store in a cool dry place.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:	None required for intended use. Mechanical room ventilation recommended.
Eye Protection:	None required for intended use in printer
Clothing:	None required for intended use in printer
Gloves:	None required for intended use in printer
Respirator:	None required for intended use in printe

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Description: Sealed cartridge contains black powdery solid material, with slight odor
Pressurized: No pH: Not applicable
Vapor Density (Air = 1): Not applicable Water Solubility: Negligible
Flash Point: Not applicable % Volatility: Not applicable
Evaporation Rate: Not applicable

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable
Conditions to Avoid: Ignition sources in combustible atmospheres of toner dust, throwing toner into an open fire.
Incompatibilities: Strong oxidizers
Hazardous Decomposition: Carbon dioxide, carbon monoxide, and unidentified organics
Polymerization: This product will not polymerize.

SECTION 11 - TOXICOLOGY INFORMATION

Acute Toxicity: Not acutely toxic: LD_{50} expected to be > 5000mg/kg
Chronic Toxicity: Contents of cartridge not expected to be toxic. Industry tests on similar generic toner showed no signs of overt toxicity. Rats exposed to high levels of toner showed a chronic inflammatory response and a mild to moderate degree of lung fibrosis. There were no pulmonary changes of any type at the lower toner exposure level, which is most relevant in regard to potential human exposures. Pure carbon black, a minor component of toner, has been listed by IARC as group 2B based on rat "lung particulate overload" studies. Toner is not listed by IARC, NTP , or OSHA.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Impact Rating (0-4): Not available
Acute Aquatic Toxicity: Not available
Degradability: Not available
Log Bioconcentration Factor (BCF): Not available
Log Octanol/Water Partition Coefficient: Not available

SECTION 13 - DISPOSAL INFORMATION

This product is not a listed or hazardous waste in accordance with Federal Regulation 40 CRF. Part 261 . If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material has been contaminated and should be classified as a hazardous waste. Disposal is subject to local, state and federal regulations.

SECTION 14 - TRANSPORTATION INFORMATION

This product is not regulated as a hazardous material the DOT.

SECTION 15 - REGULATORY INFORMATION

All ingredients are registered under the Toxic Substances Control Act (TSCA) or under polymer exemption.

None of the ingredients in this product has a final reportable quantity (RQ) under Emergency Planning and Community Right-to Know Act (EPCRA) - Section 302: Extremely Hazardous Substances (EHS) or notification requirements for EHS under Section 304.

This product contains no known materials that the State of California has found to cause cancer, birth defects or other reproductive harm California Proposition 65.

All ingredients are listed on the European Inventory of Existing Commercial Substances (EINECS) list, have been registered on the European List of New Chemical Substances (ELINCS), or are exempt.

All ingredients are listed in Australian Inventory of Commercial Substances (AICS), have been registered, or are exempt.

All ingredients are listed on the Canadian Domestic Substances List (DSL), have been registered on the Non-Domestic Substances List (NDSL), or are exempt.

All ingredients are listed on the Japanese Existing and New Chemical Substances (ENCS) list, have been registered, or are exempt.

All ingredients are listed on the Philippine Inventory of Chemicals and Chemical Substances (PICCS), are registered, or are exempt.

SECTION 16 - OTHER

Disclaimer: Data is most current known to Toshiba at the time of preparation and is believed to be accurate. No warranty as to its accuracy or completeness is expressed or implied.