TOSHIBA

MATERIAL SAFETY DATA SHEET
TOSHIBA e-STUDIO 220P Print Cartridge
P/N TAM 6315; TAM 6415
Revised date: 4/24/03

Toshiba has determined that Material Safety Data Sheets are not required for print cartridges. For customer convenience, Toshiba provides product information in this familiar format.

SECTION 1 - CHEMICAL PRODUCTS & COMPANY IDENTIFICATION

Product Name: e-STUDIO 220P Print Cartridge
Part Number: TAM 6315
Additional Part #s: TAM 6415
Chemical Family: Contains toner
Product Use: Toshiba e-STUDIO 220P Laser Printers
Company: TOSHIBA AMERICA BUSINESS SOLUTIONS, INC .
2 Musick
Irvine, CA 92618-1631

Emergency Telephone No. 1-800-424-9300

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)

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

SECTION 3 - HAZARDS IDENTIFICATION

Primary Routes of Entry: Dust inhalation. Skin contact.
Signs and Symptoms of Exposure: Toner on skin or mucous membranes (mouth, eyes & respiratory system) may cause discomfort. Minimal respiratory tract irritation may occur as with exposure to large amounts of any non-toxic dust.
Medical Conditions Aggravated by Exposure: None known at intended levels of use. Exposures to high airborne dust concentrations, including toner, may aggravate existing respiratory conditions.
Physical Hazards: As with most finely divided dusts, explosion is possible when extremely high concentrations 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 expected levels 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. Exposure not probable with intended use.
	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. Exposure not probable with intended use.
	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: Remove from area of exposure. Seek medical attention if difficulty in breathing is experienced.
Skin Contact: Wash affected area with soap and water. Seek medical attention if symptoms occur.
Eye Contact: Flush immediately with a large amount of running water for 15 minutes. Seek medical attention if irritation persist.
Ingestion: If conscious wash out mouth with water. Dilute stomach contents with 1-2 glasses of water. Seek medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: Not applicable
Flammability Limits in Air: Not available
Autoignition: Not available
LEL: Not available
UEL: Not available

Extinguishing Media: Water, dry chemical, or foam.
Firefighting: Fire may produce hazardous decomposition products such as carbon dioxide, carbon monoxide, and unidentified organics. NIOSH approved self-contained breathing apparatus may be required.
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 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.

SECTION 7 - HANDLING AND STORAGE

Store away from oxidizing materials.
When handling, minimize generation of dust. Supply adequate ventilation.
STORE IN A COOL, DRY PLACE.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

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

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Description: Black powdery material, with slight odor.
Pressurized: No
Vapor Density (Air = 1): Not Applicable
Softening Point: Not determined
Specific Gravity: Not determined
Water Solubility: Negligible
Boiling Point: Not applicable
pH: Not applicable
Evaporation Rate: Not applicable
% Volatility: Not applicable

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable **Conditions to Avoid:** None known
Incompatibilities: Strong oxidizing agents
Hazardous Decomposition: Carbon dioxide, carbon monoxide, and unidentified organics.
Polymerization: Will not occur.

SECTION 11 - TOXICOLOGY INFORMATION

Acute Toxicity: Not acutely toxic: LD_{50} (oral, rat) expected to be > 5000 mg/kg. LC_{50} (inhalation, rat) expected to be >5000 mg/l, based on data from similar toners.
Chronic Toxicity: Not expected to be chronically 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. Long term exposure to excessive concentrations of iron oxide-containing dusts has resulted in a condition identified as siderosis, a relatively benign pneumoconiosis, caused by deposition of iron oxide particles in the lung. Pure carbon black, a minor component of this toner, has been listed by IARC as a group 2B (possible carcinogen) 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 CFR 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

Not classified as a hazardous material or substance under **DOT**.

SECTION 15 - REGULATORY INFORMATION

All ingredients are listed on the **Toxic Substances Control Act (TSCA)** inventory, have been registered, or are exempt.

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.

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 at levels which the State of California has found to cause cancer, birth defects or other reproductive harm - **California Proposition 65**.

SECTION 16 - OTHER

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