MATERIAL SAFETY DATA SHEET

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

IBM Corporation
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1-800-426-4333
International Emergency Number
1-303-739-1111

In U.S.A. Call: 1-800-IBM-4333 In Canada Call: 1-800-IBM-4YOU

Product Name: Infoprint 1601, 1602, 1612, 1622 Toner Cartridge
IBM Part Number: 39V1637-1612 Toner Cartridge, 39V1638-1612 Return Program Toner Cartridge; 39V1639 – 1622 Toner Cartridge, 39V1640 – 1622 Return Program Toner Cartridge, 39V1641 – 1612 High Yield Toner Cartridge, 39V1642 – 1612 High Yield Return Program Toner Cartridge, 39V1643 – 1622 high Yield Toner Cartridge, 39V1644 – 1622 High Yield Return Program Toner Cartridge.

IBM Material Reference Number: 940279680
Product Use: Black Toner Cartridges for Infoprint 1601, 1602, 1612, 1622 Laser Printer
MSDS Creation Date: 10/24/2006
MSDS Revision Date: 12/11/2006

Section 2 - Composition / Information on Ingredients

Ingredients	Percent (wt.)	CAS No.	OSHA PELS	ACGIH TLV
Polyester Resin NJTSRN 80100286-6001P	65-85	Trade Secret	None	None
Iron Oxide	6-13	1317-61-9	None	None
Carbon Black	1-10	1333-86-4	3.5 mg/m³ TWA	3.5 mg/m³ TWA
Polymer Wax NJTSRN 80100451-5016	1-5	Trade Secret	None	None
Amorphous Silica (modified) NJTSRN 80100451-5015	1-3	Trade Secret	None	None
Titanium Dioxide	0.1-0.5	13463-67-7	15 mg/m³ TWA	10 mg/m³ TWA

Section 3 - Hazards Identification

The following information is based on testing of the product as a whole and/or characteristics of components.

Hazard Information: Primary Routes of Exposure: Dust inhalation, skin contact.

Routes of Entry and Potential Health Effects:

Inhalation: Low acute inhalation toxicity. As with exposure to high concentrations of any dust, irritation of the respiratory tract may occur. Exposure not probable with intended use.

Skin Contact: Not an irritant. Low dermal toxicity. Not a dermal sensitizer.

Eye Contact: Toner may act as a mechanical irritant.

Ingestion: Low acute oral toxicity. Exposure not probable with intended use.

Section 4 - First Aid Measures

Inhalation: If symptoms, such as shortness of breath or persistent coughing are experienced, remove source of contamination and move individual to fresh air. If symptoms persist, seek medical attention.

Skin Contact: Wash with soap and water. Should irritation occur, seek medical attention.

Eye Contact: Do not rub eyes. Flush immediately with plenty of water. Remove contact lenses and continue flushing for at least 15 minutes. If irritation develops and persists, seek medical attention.

Ingestion: Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician: No specific antidote.

Section 5 - Fire Fighting Measures

Flash Point/Range (°C): Solid, not applicable
Autoignition Temperature (°C): Not applicable
Flammable Limits in Air UEL: Not determined
Flammable Limits in Air LEL: Not determined

Extinguishing Media: Carbon dioxide, water spray or fog, dry chemical or foam

Hazardous Combustion Products: Carbon monoxide, carbon dioxide, unidentified organics

Special Exposure Hazards: 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.

Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing apparatus, if a large number of cartridges are involved.

NFPA Rating: Health: 1 Flammability: 1 Reactivity: 0
HMIS Classification: Health: 1 Flammability: 1 Reactivity: 0

Section 6 - Accidental Release Measures

Personal Precautionary Measures: None required for intended use in printer.

Environmental Precautionary: Disposal is subject to national, state, regional, or provincial regulations.

Procedure for Cleaning/ Absorption: 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. Oil permeated sweeping compound may be useful in cleaning up spills.

Section 7 - Handling and Storage

Handling: To avoid damage to cartridge and accidental contact with toner
KEEP OUT OF REACH OF CHILDREN.

Storage: Store in a cool, dry place. Store away from oxidizing material.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: None required Use in a well ventilated area.

Respiratory Protection: None required for intended use in printer. See Sections 2 or 11 for information on occupational exposure limits.

Gloves: None required for intended use in printer.

Skin Protection: None required for intended use in printer.

Eyes: None required for intended use in printer.

Section 9 - Physical and Chemical Properties

Physical State: Solid powder
Color: Black
Odor: Faint plastic-like odor
Specific Gravity: Not determined
Solubility in Water: Insoluble

Melting Point: Not determined
Vapor Density (Air=1): Not applicable
Freezing Point/Range (°C): Not applicable
% Volatiles: Not determined
Evaporation Rate: Not applicable

Section 10 - Stability and Reactivity

Chemical Stability: Stable

Hazardous Polymerization: Will not occur

Conditions to Avoid: High temperatures and flame

Materials to Avoid: Strong oxidizers

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, unidentified organics

Additional Guidelines: None

Section 11 - Toxicological Information

Primary Routes of Exposure: Inhalation of dust, skin contact.

Ingestion: Low acute oral toxicity. Exposure not probable with intended use.

Acute Toxicity Oral Rat LD50 (mg/kg): >5000

Inhalation: Low acute inhalation toxicity. As with exposure to high concentrations of any dust, minimal irritation of the respiratory tract may occur.

Titanium dioxide and pure carbon black have been categorized by IARC in Group 2B “possibly carcinogenic to humans”. Both classifications are based on rat "lung particulate overload" studies. See below for more information. Toner is not listed by IARC, NTP, or OSHA.

Medical Conditions Aggravated by Exposure: Exposure to high airborne dust concentrations, including toner, may aggravate existing respiratory conditions.

Carcinogenicity Comment: In 1996 the International Agency for Research on Cancer (IARC) reevaluated carbon black as a Group 2B carcinogen based upon the development of lung tumors in rats receiving chronic inhalation exposures of free carbon black. The effects were observed only in rats exposed to high concentrations of carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats (i.e., mice, hamsters) have not demonstrated an 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.

In contrast to the IARC assessment, neither the Occupational Safety and Health Administration (OSHA) nor the American Conference of Governmental Industrial Hygienists (ACGIH) has listed carbon black as a carcinogen.

Epidemiology studies of workers in the carbon black producing industries of North America and Western Europe do not demonstrate an association between carbon black and cancer, even in high exposure occupational settings. In addition, in its reevaluation of carbon black, IARC concluded that "there is *inadequate evidence* in humans for the carcinogenicity of carbon black". Chronic overexposure to many dusts, including carbon black dust, may result in respiratory tract irritation and slight changes in pulmonary function.

Collectively, the available data from animal and human epidemiology studies suggest that carbon black, as contained in this product, does not present a cancer risk to the end user if the handling and personal protective measures contained within this MSDS are understood and followed.

Exposure Limit Values: Toner dust is a particulate not otherwise classified (PNOC) or regulated (PNOR).
Carbon black: ACGIH TLV-TWA: 3.5 mg/m^3
OSHA PEL-TWA: 3.5 mg/m^3
Titanium dioxide: ACGIH TLV-TWA: 10 mg/m^3
OSHA PEL-TWA: 15 mg/m^3, total dust

Section 12 - Ecological Information

Mobility: Not determined

Persistence: Not determined

Bioaccumulative: Not determined

Other Information: None

Section 13 - Disposal Considerations

Waste Disposal:
In the U.S. this product is not a listed 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 - Transport Information

DOT Status: Not classified as a hazardous material or substance under US DOT.

DOT Shipping Name:	Not applicable	**DOT Reportable Quantity:**	Not applicable
Hazard Class:	Not applicable	**DOT Packing Group:**	Not applicable

Section 15 - Regulatory Information

TSCA (USA) All but one component are included in the TSCA inventory, with the one component meeting the definition of an exempt polymer and thus exempt from listing on the TSCA inventory. No components of the toner formulation are subject to any requirements under sections 4 or 5(b) of TSCA or any rule, order or action under sections 5, 6 or 7 of TSCA.

SARA / EPCRA (USA): 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.

California Proposition 65: This product contains no known material requiring warning under California Proposition 65. Pure carbon black is on the State of California's list of chemicals known to cause cancer or reproductive toxicity, but the California Office of Environmental Health Hazard Assessment (OEHHA) exempted carbon black bound in product formulations such as toner from the Proposition 65 warning requirements.

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

EINECS (Europe): 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.

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

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

ECL (Korea): All ingredients are listed on the Korean Existing Chemicals List (ECL), have been registered, or are exempt.

WHMIS Hazard Class (Canada): Not a WHMIS controlled product.

Section 16 - Other Information

Reason for revision	New Product
Additional advice	No information available
Prepared By	IBM Printing Systems Division
Preparer's Address	Boulder, Colorado, USA

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*****END OF MSDS*****