



MATERIAL SAFETY DATA SHEET

Section 1 – Product and Company Identification

IBM Corporation
New Orchard Road
Armonk, New York 10504
U.S.A.

24 Hour Emergency Source Information:
1-800-426-4333
International Emergency Number:
1-303-739-1113

Product Name: Infoprint 1222 Toner Cartridge
Product Trade Names and Synonyms: None
Chemical Family: Contains toner
IBM Part Number: 53P7704, 53P7705, 53P7706, 53P7707
IBM Material Reference Number: 940118600

MSDS Preparation Date: August 2, 2002 **MSDS Revision Date:**

MSDS Prepared By: IBM Printing Systems Division, Boulder, Colorado

Section 2 – Composition / Information on Ingredients

Component	Percentage	CAS #	UN #	NFPA Ratings			
				H	F	R	S
Polyester resin	65-80	(1)(2)	N/App	Not available			
Carbon black	1-10	1333-86-4	N/App	1	1	0	--
Iron oxide	6-12	1317-61-9 12227-89-3	N/App	Not available			
Polymer wax	1-5	(1)(3)	N/App	Not available			

Notes: (1) Trade secret or patented molecule.
(2) New Jersey Trade Secret Registration Number 80100286-6001P.
(3) New Jersey Trade Secret Registration Number 80100451-5016.

See Section 8 for Exposure Guidelines.

Section 3 – Hazards Identification

Emergency Overview:

Black powder with a slight odor. Carbon black has been classified as an IARC 2B (possible human) carcinogen. May cause respiratory tract or skin irritation. May form flammable or explosive dust-air mixtures. Avoid chronic pulmonary exposures to dust. Avoid exposure to eyes, skin or clothing (will stain). Keep container closed. Use with adequate ventilation.

Primary Routes of Entry: Dust inhalation, skin contact.

Potential Health Effects:

Skin Contact:



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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.

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: Potential risk of irreversible pulmonary effects*.
*Chronic exposure is not expected when this product is used as intended.

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.

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.

Signs and Symptoms of Exposure: Toner on skin or mucus 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.

Physical Hazards: As with most finely divided dusts, explosion is possible when extremely high concentrations of dust and an ignition source is present. Not a hazard under normal conditions of use.

Carcinogen Status:

OSHA: N

IARC: Y (Carbon Black)

NTP: N

ACGIH: N

Section 4 – First Aid Measures

Inhalation: Remove from area of exposure. Seek medical attention if difficulty in breathing is experienced.



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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 persists.

Ingestion: If conscious was out mouth with water. Dilute stomach contents with 1-2 glasses of water. Seek medical attention.

Antidotes: Not available.

Note to Physician: Not available.

Section 5 – Fire Fighting Measures

Means of Extinction: Water, dry chemical, or foam.

Protective Equipment for Fire-Fighting / Special Fire Fighting Procedures: Fire may produce hazardous decomposition products such as carbon dioxide, carbon monoxide, and unidentified organics. NIOSH approved self-contained breathing apparatus may be required.

Flash Point (Method): Not applicable.

Upper and Lower Flammable (Explosive) Limits: Not available.

Autoignition Temperature: Not available.

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, and low molecular weight organics.

Conditions of Flammability: 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.

Section 6 – Accidental Release Measures

Procedures to be Followed in Case of Leak or 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 a non-metallic broom and dustpan. Contain for disposal.

Section 7 – Handling and Storage

Precautions for Safe Handling: When handling, minimize generation of dust. Supply adequate ventilation.

Conditions for Safe Storage: Store away from oxidizing materials. Store in a cool, dry place.

Section 8 – Exposure Controls/Personal Protection

Iron oxide (as iron):

5 mg/m³ ACGIH TLV



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Carbon black:

3.5 mg/m³ OSHA TWA PEL
3.5 mg/m³ ACGIH TWA TLV - ACGIH A4 - Not classifiable as a human carcinogen (Proposed addition 1995-1996)
3.5 mg/m³ NIOSH recommended 10 hour TWA
0.1 mg/m³ NIOSH recommended 10 hour TWA (in the presence of polycyclic aromatic hydrocarbons)

Measurement

Method: Particulate filter; gravimetric; (NIOSH III # 5000).

In Canada, consult local authorities for acceptable provincial values.

Ventilation: Provide adequate ventilation (ASHRAE 62).

Personal Protective Equipment:

Respirator: No respirator is required under normal conditions of use. Under conditions of frequent or heavy exposure protection may be needed.

Eye Protection: If significant eye exposure is anticipated, the use of chemical splash goggles is recommended.

Eye Wash: Where there is a potential for eye exposure to this substance, an eye wash fountain should be provided within the immediate work area for emergency use.

Clothing: Protective clothing is not required under normal conditions.

Protective Gloves: If significant skin exposure is anticipated, appropriate gloves should be worn to prevent skin contact with this substance.

Section 9 – Physical and Chemical Properties

Color: Black

Physical State: Solid (powder)

Odor: Slight odor

pH: Not applicable

Vapor Pressure: Not available

Vapor Density (Air=1): Not applicable

Boiling Point: Not applicable

Softening Point: Not determined

Specific Gravity: Not determined

Evaporation Rate: Not applicable

Solubility in Water: Negligible

Density: Not determined

Percent Volatile: Not applicable

Molecular Weight: Not available

Pressurized (Y/N): N

Section 10 – Stability and Reactivity



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Stability/Conditions to Avoid: Stable/None known.

Materials to Avoid/Incompatibility: Strong oxidizing agents.

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

Hazardous Polymerization: Will not occur.

Section 11 – Toxicological Information

CARBON BLACK

Toxicity Data: >10 gm/kg oral-rat LD₅₀ (EM Science MSDS); 120 mg/kg intravenous-rat LD₅₀ (THIDD6).

Carcinogenicity Status:

In 1996 the International Agency for Research on Cancer (IARC) reevaluated carbon black as a Group 2B carcinogen (possible human 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) have 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 animal data 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.

Local Effects: Irritant - inhalation, skin.

Acute Toxicity Level: Slightly toxic by ingestion.

Target Effects: Toxic overexposure may affect the respiratory system, the heart, skin and mucous membranes.

At Increased Risk From Exposure: Persons with certain pre-existing upper respiratory disorders, such as bronchitis or asthma.



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PRODUCT DATA – Toner

Toxicity Data:

LD50 (rat,oral): expected to be > 5000mg/kg

LD50 (rabbit,skin): not available

LD50 (rat, inhal): not available

Acute Toxicity Level: not acutely toxic

Chronic Toxicity: Contents of cartridge are 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 lower toner exposure levels, which are the most relevant to potential human exposures. See information in Section 3 and earlier in this section for carbon black carcinogenicity status.

Teratogenicity: Not available.

Mutagenicity: Not available.

Section 12 – Ecological Information

Environmental Information: Not available.

Section 13 – Disposal Considerations

Disposal Methods/Waste Disposal: 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.

Observe all federal, regional, and local regulations when disposing of this substance. Contact local waste vendors for proper disposal.

Section 14 – Transport Information

Mexico/Latin America

Regulations for Land Transportation of Hazardous Materials and Wastes:

Not available.

NOM-004-SCT2-1994: Not available.

United Nations Recommendations on the Transport of Dangerous Goods:

Not regulated.

North American Emergency Response Guide: Not available.



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Canada

Transportation of Dangerous Goods (TDG) Regulations: Not regulated.

United States

Department of Transportation (DOT) Subchapter 49CFR: Not classified as a hazardous material or substance.

Section 15 – Regulatory Information

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.

Canada

WHMIS Classification: None – Manufactured article.

United States

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

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

Section 16 – Other Information

IBM is a registered trademark of IBM Corporation.