SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

IBM CORPORATION FOR EMERGENCY SOURCE INFORMATION
NEW ORCHARD ROAD 24 HOURS CONTACT 1-800-426-4333
ARMONK, NEW YORK 10504
U.S.A.
In U.S.A., call:  1-800-IBM-4333        In CANADA, call: 1-800-IBM-4YOU

NAME: INFOPRINT 3000 HQ TONER (1402717)
IBM Field Use Number: 1402717
IBM Material Reference Number: 901244030
TRADE NAMES/SYNONYMS: H-1073S TONER; IBM P/N 1402717
CHEMICAL FAMILY:
PRODUCT USE: Printer toner
CREATION DATE: February 20, 2001        REVISION DATE:

SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: Styrene Acrylic Copolymer
CAS NUMBER: 25987-66-0
EC NUMBER: exempted
PERCENTAGE: 80-90

COMPONENT: Carbon Black
CAS NUMBER: 1333-86-4
EC NUMBER: 215-609-9
PERCENTAGE: 7-13

COMPONENT: Polypropylene Wax (1-Propene, polymer with ethene)
CAS NUMBER: 9010-79-1
EC NUMBER: exempted
PERCENTAGE: 1-5

COMPONENT: Paraffin Wax
CAS NUMBER: 8002-74-2
EC NUMBER: 232-315-6
PERCENTAGE: 1-5

COMPONENT: C.I. Solvent Black 7
CAS NUMBER: 8005-02-5
EC NUMBER: 309-912-6
PERCENTAGE: 1-5

COMPONENT: Quaternary ammonium compound
CAS NUMBER: 142051-76-1
EC NUMBER: registered
PERCENTAGE: 1-5

COMPONENT: Silica
CAS NUMBER: 199876-44-3
EC NUMBER: exempted
PERCENTAGE: 0.1-1

SECTION 3 - HAZARDS IDENTIFICATION
NFPA RATINGS (SCALE 0-4): HEALTH=1  FIRE=1  REACTIVITY=0

EC CLASSIFICATION (CALCULATED): No classification assigned.

EMERGENCY OVERVIEW:
LOW HAZARD FOR RECOMMENDED USE AND HANDLING. 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 breathing of dust. Avoid exposure to eyes, skin or clothing (will stain). Keep container closed. Use with adequate ventilation.

ROUTES OF ENTRY: Inhalation, skin or eye contact.

IRRITANCY OF PRODUCT: Mildly irritating to respiratory tract.

POTENTIAL HEALTH EFFECTS:

INHALATION:
SHORT TERM EFFECTS: No information on significant adverse effects.
LONG TERM EFFECTS: Potential risk of irreversible pulmonary effects.*
*Chronic exposure is not expected when this product is used as intended.

SKIN CONTACT:
SHORT TERM EFFECTS: No information on significant adverse effects.
LONG TERM EFFECTS: No information on significant adverse effects.

EYE CONTACT:
SHORT TERM EFFECTS: No information on significant adverse effects.
LONG TERM EFFECTS: No information on significant adverse effects.

INGESTION:
SHORT TERM EFFECTS: Ingestion of harmful amounts is unlikely.
LONG TERM EFFECTS: Ingestion of harmful amounts is unlikely.

CARCINOGEN STATUS:
OSHA: N
NTP: N
ACGIH: N
IARC: Y (Carbon Black)

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 to free carbon black. The effects were observed only in animals exposed to high concentrations of carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats 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.

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.

SECTION 4 - FIRST AID MEASURES
**INHALATION:** Remove to fresh air. If irritation persists, call a physician.

**SKIN CONTACT:** Immediately wash thoroughly with soap and plenty of water.

**EYE CONTACT:** Immediately flush eyes with plenty of water until irritation subsides. Call a physician.

**INGESTION:** If swallowed, give water to wash in the mouth. Call a physician.

**SECTION 5 - FIRE FIGHTING MEASURES**

**EXPLOSION DATA/CONDITIONS OF FLAMMABILITY:** Not flammable, but like many finely-divided powders, such as flour, this material may form an explosive mixture when dispersed in air. Avoid flames, sparks, and generation of dust.

**MEANS OF EXTINCTION:** Carbon dioxide, foam, and dry chemical powder.

**FLASH POINT (METHOD):** Not applicable

**LOWER FLAMMABLE LIMIT:** Not applicable

**UPPER FLAMMABLE LIMIT:** Not applicable

**AUTOIGNITION TEMPERATURE:** Not applicable

**HAZARDOUS COMBUSTION PRODUCTS:** Carbon monoxide, carbon dioxide, nitrogen and sulfur oxides, and ferric oxides.

**SENSITIVITY TO MECHANICAL IMPACT:** No data available

**SENSITIVITY TO STATIC DISCHARGE:** No data available

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

Small spill or leak: dampen to minimize generation of dust; then sweep up and discard into a waste container. Large spill or leak: contact local emergency response personnel for guidance.

**SECTION 7 - HANDLING AND STORAGE**

Handling: Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Provide adequate ventilation. Avoid generation of dust.

Storage: Keep container closed; store in cool, dark place, and keep away from heat, open flame, and sparks.

**SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

**EXPOSURE LIMITS:**

**CARBON BLACK:**

- 3.5 mg/M³ OSHA TWA PEL
- 3.5 mg/M³ ACGIH TWA TLV (dust and fumes) - 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: General room ventilation should be sufficient if airborne levels do not exceed recommended exposure limits.

RESPIRATOR: No respirator is required under normal conditions of use. Under conditions of frequent or heavy exposure, a dust respirator 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 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.

OTHER PROTECTIVE EQUIPMENT: None (under normal use). Large exposures: protective clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Solid
ODOR AND APPEARANCE: Faint odor and fine black powder
BOILING POINT: Not applicable
FREEZING POINT: Not applicable
VAPOR PRESSURE: Not applicable
VAPOR DENSITY: Not applicable
SPECIFIC GRAVITY: 1.1 (H₂O = 1)
WATER SOLUBILITY: No data
VOLATILITY: Not applicable
PH: Not relevant
ODOR THRESHOLD: Not applicable
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable
PRESSURIZED (Y/N): N

SECTION 10 - STABILITY AND REACTIVITY

CONDITIONS OF REACTIVITY: Stable at normal temperature and pressure.
CONDITIONS TO AVOID: Not applicable
INCOMPATIBLE MATERIALS: Strong oxidizing agents (increased risk of fire).
HAZARDOUS DECOMPOSITION PRODUCTS: None
POLYMERIZATION: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

IBM Infoprint 3000 Toner (1402717) (IBM has reported the following*):

MUTAGENIC DATA: Negative in Ames test*

CARCINOGEN STATUS: IARC GROUP 2B
ACUTE TOXICITY LEVEL: No data available.
MATERIAL SAFETY DATA SHEET

TARGET EFFECTS: No data available.

CARBON BLACK:
TOXICITY DATA: >10 gm/kg oral-rat LD₅₀ (EM Science MSDS); 120 mg/kg intravenous-rat LD₅₀ (THIDD6).
CARCINOGEN STATUS:
Human Data: Epidemiological studies of workers in carbon black producing industries of North America and Western Europe show no evidence of clinically significant adverse health effects due to occupational exposure to carbon black. Early studies performed in the former USSR and Eastern Europe report respiratory disease among workers exposed to carbon black, including: bronchitis, pneumoconiosis, emphysema, and rhinitis. These studies are of questionable validity due to inadequate study design and methodology, lack of appropriate controls for smoking tobacco, and other confounding variables such as exposures to carbon monoxide, coal oil, and petroleum vapors. Furthermore, review of these studies indicates that work environment concentrations of carbon black were considerably greater than current occupational exposure standards. In its Monograph Volume 65, issued April 1996, IARC reevaluated carbon black and concluded that "there is inadequate evidence in humans for the carcinogenicity of carbon black".

Animal Data: Chronic inflammation, lung fibrosis, and lung tumors have been observed in some rats exposed experimentally, for long periods of time, to excessive concentrations of carbon black and several other fine dust particles. Tumors have not been observed in other animal species (i.e. mice, hamsters) under similar circumstances and study conditions. Many researchers conducting rat inhalation toxicity studies believe that these effects most likely result from the massive accumulation of fine dust particles in the lung, which overwhelm the lung clearance mechanisms, resulting in "lung overload" phenomenon, rather than from a specific chemical effect associated with the dust particles in the lung.

Many inhalation toxicologists believe that the tumor response observed in the referenced rat studies is species-specific and does not correlate to human exposure. However, the IARC reevaluation in Volume 65 concluded that "there is sufficient evidence in experimental animals for the carcinogenicity of carbon black". Based upon this reevaluation, IARC’s overall evaluation is that "carbon black is possibly carcinogenic to humans (IARC Group-2B)".

Carbon black has not been listed as a carcinogen by the National Toxicology Program (NTP) nor by the Occupational Safety and Health Administration (OSHA). The American Conference of Governmental Industrial Hygienists (ACGIH) lists carbon black in class A4, “not classifiable as a human carcinogen”.

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.
SENSITIZATION TO PRODUCT: Not available
TOXICOLOGICALLY SYNERGISTIC PRODUCTS: Not available
REPRODUCTIVE TOXICITY: No human or animal information available.
TERATOGENICITY: No human or animal information available.
MUTAGENICITY: No human information available. Positive results have been obtained in somatic cells following the animal inhalation exposures to carbon black.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL IMPACT RATING (0-4): No data
ACUTE AQUATIC TOXICITY: No data
DEGRADABILITY: No data
LOG BIOCONCENTRATION FACTOR (BCF): No data
LOG OCTANOL/WATER PARTITION COEFFICIENT: No data
SECTION 13 - DISPOSAL CONSIDERATIONS

Observe all federal, regional and local regulations when disposing of this substance. Contact local waste vendors for proper disposal. Disposal by controlled incineration or secure landfill may be acceptable.

SECTION 14 - TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION:
Not regulated.

CANADA TRANSPORTATION OF DANGEROUS GOODS (TDG) REGULATIONS:
Not regulated.

SECTION 15 - REGULATORY INFORMATION

UNITED STATES:
TSCA INVENTORY STATUS (Y/N): Y
TSCA SECTION 12(b) EXPORT NOTIFICATION:
CERCLA SECTION 103 (40CFR302.4): None
SARA SECTION 302 (40CFR355.30): None
SARA SECTION 304 (40CFR355.40): None
SARA SECTION 313 (40CFR372.65): None

CALIFORNIA PROPOSITION 65: Not regulated
SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40 CFR370.21): Nonhazardous under SARA Section 311/312.
ACUTE HAZARD: None
CHRONIC HAZARD: None
FIRE HAZARD: None
REACTIVITY HAZARD: None
SUDDEN RELEASE HAZARD: None

CANADA:
WHMIS CLASSIFICATION: Class D2A
All ingredients are listed on the Domestic Substance List with the exception of silica, CAS number 199876-44-3. Silica is not listed on the DSL nor on the NDSL.
This product has been classified in accordance with the hazard criteria of the CPR, and MSDS contains all the information required by the CPR.

SECTION 16 - OTHER INFORMATION

Prepared by IBM Printing Systems Division, Boulder, Colorado
Phone: 1-800-IBM-4333

IBM is a registered trademark of IBM Corporation.