

MATERIAL SAFETY DATA SHEET**SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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NAME: IBM Infoprint 1120, 1125 Toner Cartridge
IBM Part Number: 28P2491, 28P2492, 28P2493, 28P2494, 53P7982, 39V2282
TRADE NAMES/SYNONYMS: Toner, EP Cartridge, High Yield Toner Cartridge
CHEMICAL FAMILY: Toner
CREATION DATE: 16 July 2001 **REVISION DATE:** 11 January, 2012

SECTION 2 - HAZARDS IDENTIFICATION CLASSIFICATION:

EMERGENCY OVERVIEW: 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

Low hazard for usual industrial or commercial handling by trained personnel. Under solid form, this material is not considered to be hazardous in accordance with OSHA 29 CFR 1910.1200.

Potential Health Effects

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard. However: Vapor may be irritating.

Eye Contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Under normal conditions of intended use, this material does not pose a risk to health. However: Liquid may irritate the skin.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Chronic Health Effects: None known.

Target Organ(s): | Respiratory system | Eye | Skin |

Potential Physical / Chemical Effects: This product is not flammable.

OSHA Regulatory Status: This product is not hazardous according to OSHA 29CFR 1910.1200.

Environment: No data available.

SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS

TONER COMPONENT:

Iron oxide

CAS NUMBER: 1317-61-9

PERCENTAGE: 8-11%

COMPONENT:

Styrene Acrylic Copolymer

CAS NUMBER: 58048-89-8

PERCENTAGE: 80-90%

COMPONENT:

Carbon Black

CAS NUMBER: 1333-86-4

PERCENTAGE: 3-7%

COMPONENT:

Particle Control Agent

CAS NUMBER: (1)

PERCENTAGE: <3%

COMPONENT: Particle Control Agent

CAS NUMBER: (2)

PERCENTAGE: <3%

(1) New Jersey Trade Secret Registration Number 80100451-5000

(2) New Jersey Trade Secret Registration Number 80100451-5015

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. Seek medical advice if symptoms persist.

SKIN CONTACT: Wash 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: If conscious, immediately wash mouth out with plenty of water. If irritation occurs, seek medical advice.

SECTION 5 - FIRE FIGHTING MEASURES

CONDITIONS OF FLAMMABILITY AND EXPLOSION: 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.

EXTINGUISHING MEDIA: CO₂, water spray, dry chemical or foam. Avoid full water jet.
FIRE FIGHTING: NIOSH approved self-contained breathing apparatus may be required if a large number of cartridges are involved.

FLASH POINT (METHOD): Not applicable.

LOWER FLAMMABLE LIMIT: Not available.

UPPER FLAMMABLE LIMIT: Not available.

AUTOIGNITION TEMPERATURE: Not available.

HAZARDOUS COMBUSTION PRODUCTS: CO, CO₂, and low molecular weight organics.
Avoid breathing smoke.

EXPLOSION DATA: See conditions of Flammability and Explosion

SENSITIVITY TO MECHANICAL IMPACT: Stable.

SENSITIVITY TO STATIC DISCHARGE: See conditions of Flammability and Explosion

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Spill Cleanup Methods: Sweep or scoop up and remove. Collect and dispose of spillage as indicated in section 13 of the MSDS.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground.

Notification Procedures: Inform authorities if large amounts are involved.

SECTION 7 - HANDLING AND STORAGE

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

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

CARBON BLACK:

3.5 mg/M³OSHA TWA PEL

**3.5 mg/M³ACGIH TWA TLV - ACGIH A4 - Not classifiable as a human carcinogen
(Proposed addition 1995-1996)**

3.5 mg/M³NIOSH recommended 10 hour TWA

0.1 mg/M³NIOSH recommended 10 hour TWA (in the presence of polycyclic aromatic hydrocarbons)

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

IRON OXIDE

5 mg/M³ ACGIH TLV(as Iron)

PARTICLE CONTROL AGENT (NJTSRN 80100451-5000)

15 mg/M³OSHA PEL (total dust)(particulates not otherwise regulated-PNOR)

5 mg/M³OSHA PEL (respirable dust)(particulates not otherwise regulated-PNOR)

10 mg/M³ACGIH TLV (respirable dust)(particulates not otherwise classified-PNOC)

In Canada, consult local authorities for acceptable provincial values.

VENTILATION: None required for intended use. Mechanical room ventilation recommended.

RESPIRATOR: None required for intended use in printer.

EYE PROTECTION: None required for intended use in printer.

PROTECTIVE GLOVES: None required for intended use in printer.

OTHER PROTECTIVE EQUIPMENT: None required for intended use in printer.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: sealed cartridge contains black powdery solid material, with slight odor

ODOR AND APPEARANCE: see above

BOILING POINT: Not applicable

FREEZING POINT: Not applicable

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: not available

WATER SOLUBILITY: Negligible

VOLATILITY: Not applicable

PH: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

PRESSURIZED (Y/N): N

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS OF REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Ignition sources in combustible atmospheres of toner dust and throwing toner into an open fire.

INCOMPATIBLE MATERIALS: Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO₂ and other unidentified organics.

POLYMERIZATION: This product will not polymerize.

SECTION 11 - TOXICOLOGICAL INFORMATION

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 the Occupational Safety and Health Administration (OSHA).

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.

PRODUCT DATA:

TOXICITY DATA:

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

LD50 (rbt, skin): not available

LC50 (rat, ihl): not available

ACUTE TOXICITY LEVEL: not acutely toxic

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 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 CONSIDERATIONS

This product is not a listed or hazardous waste in accordance with Federal Regulation 40 CFR Part 261.

General Information: Dispose in accordance with applicable federal, state, and local regulations.

Disposal Methods: No specific disposal method required.

Container: No special precautions.

SECTION 14 - TRANSPORT INFORMATION

DOT Not regulated.

TDG Not regulated.

IATA Not regulated.

IMDG Not regulated.

SECTION 15 - REGULATORY INFORMATION

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

All ingredients are exempt, registered or considered registered (polymers) under European Inventory of Existing Commercial Chemical Substances (EINECS).

None of the product ingredients are listed as Emergency Planning and Community Right to Know Act (EPCRA)-Section 302: Extremely Hazardous Substances (EHS).

Components present above the minimum quantities of listed chemicals in EPCRA - Section 313 Supplier Notification: The toner product contains <5% of a zinc compound.

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

CANADA: This product is a “manufactured article” and is exempt from the substances provisions of the Canadian Environmental Protection Act.

WHMIS Classification - Manufactured article therefore, product is exempt under WHMIS

SECTION 16 - OTHER INFORMATION

Disclaimer: The information provided on this MSDS is correct to the best of InfoPrint Solutions Company's knowledge, information, and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty, either express or implied, regarding the accuracy of the data or information contained herein. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text. Ricoh, InfoPrint and the Infoprint logo are trademarks or registered trademarks of Ricoh Co., Ltd., in Japan, the United States and other countries, and are used under license from the trademark owner. InfoPrint Solutions is a tradename of InfoPrint Solutions Company, LLC, in the United States, other countries, or both.

