MATERIAL SAFETY DATA SHEET: 2001800761US
Date Prepared: November 8, 2001
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KONICA TONER TN601K 7155/7165 950-564
7255/7272 950-564

Company Name: Konica Minolta Business Solutions, U.S.A., Inc.
500 Day Hill Road, Windsor, CT 06095, U.S.A.

Telephone Number: TEL: 860-683-2402 x 2093 FAX: 860-902-7637

Emergency Telephone Number: CHEMTREC 1-800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	CAS#	wt.%
Styrene-acrylic resin	Trade Secret	80 - 90
Carbon black	1333-86-4	5 - 12
Wax	Trade Secret	5 - 12
Silica(amorphous)	7631-86-9	<1
Titanium dioxide	13463-67-7	<1

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

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* Fine black powder(mean diameter is about 6.5um by volume). Slight mild odor. *
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POTENTIAL HEALTH EFFECTS

Eye Effects: None currently known.
Skin Effects: None currently known.
Ingestion Effects: None currently known.
Inhalation Effects:

None currently known. Minimal respiratory tract irritation may occur as with exposure to large amount of any non-toxic dust.

Chronic Effects/ Carcinogenicity:

Prolonged inhalation of excessive dusts may cause lung damage. The effect is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged period. Use of this product, as intended, does not result in inhalation of excessive dust. Carbon black is classified as a group 2B carcinogen (possible human carcinogen) by The International Agency for Research on Cancer {IARC}. However, based on animal testing, it is presumed that there is no association between toner exposure and cancer.

4. FIRST AID MEASURES

Eye:	Flush eyes lightly with plenty of water. If symptoms occur, get medical attention.
Skin:	Wash with water and mild soap.
Ingestion:	Wash out mouth with water. Drink one or two glasses of water. If symptoms occur, get medical attention.
Inhalation:	Remove victim to fresh air. If symptoms occur, get medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	Not applicable.
Method Used:	Not applicable.
Flammable Limits:	Not applicable.
Autoignition Temperature:	Not applicable.
Flammability Classification:	Not applicable.
Unusual Fire and Explosion Hazard:	Will burn if involved in a fire.
Extinguishing Media:	Water spray, dry chemical, foam.
Fire Fighting:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. If fire is in the machine treat as an electric fire, do not use water or foam.
Hazardous Combustion Products:	Carbon monoxide, carbon dioxide, and smoke.

6. ACCIDENTAL RELEASE MEASURES

Spill and Leakage Procedures:

Wear personal protective equipment(See Section 8). Minimize the release of particulates. Sweep or vacuum material, place in a bag and hold for waste disposal. Use vacuum with High Efficiency Particulate Air {HEPA} filter. Vacuum should be electrically bonded and grounded to dissipate static electricity. To avoid dust generation, do not sweep dry.

7. HANDLING AND STORAGE

Handling:

Keep out of reach of children. Try not to disperse the particles. Avoid prolonged inhalation of excessive dust and contact with eyes.

Prevention of Fire and Explosion:

This material is capable of creating a dust explosion. Keep away from heat, sparks and flame.

Storage:

Keep container tightly closed. Store in a cool and dry place. Keep away from oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Standards:	ACGIH TLV		
INGREDIENTS	TWA	STEL	OSHA PEL
Styrene-acrylic resin	None established		None established
Carbon black	3.5 mg/m^3		3.5 mg/m^3
Wax	None established		None established
Silica(amorphous)	10mg/m^3		80mg/m^3
Titanium dioxide	10mg/m^3		15mg/m^3

Engineering Controls: Good general ventilation is recommended.
Respiratory Protection: Not required under normal conditions. For use other than in normal operating procedures (such as in the event of large spill), goggles and respirators may be required.
Skin Protection: Not required under normal conditions.
Eye Protection: Not required under normal conditions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Fine black powder(mean diameter is about 8.5um by volume)
Odor: Slight mild odor.
pH: Not applicable.
Vapor Pressure: Not applicable.
Vapor Density: Not applicable.
Evaporation Rate: Not applicable.
Boiling Point: Not applicable.
Melting Point: Around 125ºC {~257ºF }(Softening point).
Solubility: Insoluble in water.
Specific Gravity: 1.20

10. STABILITY AND REACTIVITY

Stability: Stable except above 200ºC {392ºF }.
Incompatibility: Oxidizers.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and smoke.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION:

Product

Acute oral toxicity: LD_{50}:>2000mg/kg[rat].
Acute dermal toxicity: LD_{50}:>2000mg/kg[rat].
Inhalation: LC_{50}:>5690mg/m^3/4hrs[rat](This value is highest attainable with aerosol generation apparatus).
Eye irritation: Non-irritant[rabbit].
Skin irritation: Non-irritant[rabbit].
Skin sensitization: Non-sensitizing[guinea pig].
Chronic Effects/Carcinogenicity:

In a two-year inhalation study of chronic toxicity and carcinogenicity using a typical toner in rats, there were no lung changes at all in the lowest exposure level (1mg/m^3), the most relevant level to potential human exposures. A minimal to mild degree of fibrosis was noted in 22% of the animals at the middle exposure level (4mg/m^3), and a mild to moderate degree of fibrosis was observed in 92% of the rats at the highest exposure level(16mg/m^3). The lung changes observed in the higher exposure groups are interpreted in terms of "lung overloading", a series of generic responses to the presence of large quantities of respirable, insoluble and relatively benign dusts retained for extended time periods in the lungs. Lung tumor frequency was unchanged among rats exposed to toner at the three exposure levels, and for air-only control rats.

Mutagenicity: Ames test: Negative.

Ingredients

Carbon black

Carcinogenicity:

The IARC reevaluated carbon black as a group 2B carcinogen (possible human carcinogen) in Monograph Volume 65 in 1996. This category has been given to carbon black, based on IARC's evaluations that there is inadequate evidence in humans for the carcinogenicity of carbon black, but there is sufficient evidence in experimental animals. The latter evaluation was made due to the development of lung tumors in rats receiving chronic inhalation exposure to free carbon black at levels that induce "lung overloading". However, studies performed in mice 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. (See chronic effects in this section.)

Wax: Ames test negative.

Silica {Amorphous}

Acute oral toxicity: LD_{50}: 3160mg/kg[rat].
Mutagenicity: Ames test negative.

Titanium dioxide

Acute oral toxicity: LD_{50}: >5000mg/kg[rat].
Eye irritation: Non-irritant [rabbit].
Skin irritation: Non-irritant [rabbit].
Skin sensitization: Non-irritant [guinea pig]
Carcinogenicity: IRAC Group 3 {Not classifiable as to its carcinogenicity to humans}
Mutagenicity: Ames test negative.

12. ECOLOGICAL INFORMATION: Titanium dioxide: Not accumulated.

13. DISPOSAL CONSIDERATIONS:
When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method. Do not discard toner cartridges into fireplace or heating stove.

14. TRANSPORT INFORMATION: DOT/TDG CLASS: Not Regulated.

15. REGULATORY INFORMATION:
OSHA Hazard Communication Standard, 29CFR 1910.1200:
Ingredient carbon black is considered hazardous.
CERCLA(Comprehensive Environmental Response Compensation and Liability Act):
None.
SARA Title III (Superfund Amendments and Reauthorization Act):
302 Extreme Hazardous Substance: None.
311/312 Hazard Categories: None.
313 Reportable Ingredients: None.
TSCA(Toxic Substance Control Act):
All chemical substances in this product comply with all applicable rules or order under TSCA.
California Proposition 65:
This product contains no chemical substances subject to California Proposition 65.

16. OTHER INFORMATION:
HMIS Hazard Rating Health: 1, Flammability: 1, Reactivity: 0

References
IARC (1996) IARC Monographs on the Evaluation of the Carcinogenic Risks of Chemicals to Humans, Vol. 65, Printing Processes and Printing Inks, Carbon Black and Some Nitro Compounds, Lyon, pp. 149-261

H. Muhle, B. Bellmann, O. Creutzenberg, C. Dasenbrock, H. Ernst, R. Kilpper, J. C. MacKenzie, P. Morrow, U. Mohr, S. Takenaka, and R. Mermelstein (1991) Pulmonary Response to Toner upon Chronic Inhalation Exposure in Rats, Fundamental and Applied Toxicology

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