



Product Name: TONER TN312M

Prepared date:10-Jul-2006
Revised Date: 23-Feb-2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: TONER TN312M
used for: C352/C300/C352P

Supplier Identification:

Konica Minolta Business Solutions (Canada), Ltd.
369 Britannia Road East Mississauga, Ontario L4Z 2H5
Telephone: (905)890-6600 Facsimile: (905)283-2511

Emergency Telephone No.

CHEMTREC
Telephone: 1-800-424-9300

WHMIS: This product is NOT subject to the controlled products regulations.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance [] Preparation [X]

Major Ingredients:

[Generic Name]	[CAS No.]	[%]
Styrene acrylic resin	+++	80-90
Wax	+++	10-20
Organic pigment 1	+++	1-10
Organic pigment 2	+++	1-10
Titanium compound	12060-59-2	1-10
Amorphous silica	7631-86-9	< 1
Titanium dioxide	13463-67-7	< 1

+++ : Supplier's confidential information

Hazardous Ingredients:

Chemical Name: Titanium dioxide (<1%)
CAS No.: 13463-67-7 IARC Monographs: Group 2B



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3. HAZARDS IDENTIFICATION

- Emergency Overview: Magenta powder (mean dia. is 5-10um by volume).
Almost odorless
- Classification: Not classified as dangerous. (1999/45/EC)
- Most Important Hazards and Effects of the Products
- Ingestion Effect: None currently known.
- Inhalation Effect: None currently known. Minimal respiratory tract irritation may occur as with exposure to large amount of any non-toxic dust.
- Eye Effect: None currently known.
- Skin Effect: None currently known.
- Chronic Effects: Prolonged inhalation of excessive dusts may cause lung damage. Use of this product, as intended, does not result in inhalation of excessive dust.
- Environment Hazards: No data are available on the adverse effects of this product on the environment.
- Specific Hazards: Dust explosion (like most finely divided organic powders)

4. FIRST-AID MEASURES

- Ingestion: Wash out mouth with water. Drink one or two glasses of water. If symptoms occur, get medical attention.
- Inhalation: Move victim to fresh air immediately. If symptoms occur, get medical attention.
- Eye Contact: Flush eyes with plenty of water for 15 minutes. If symptoms occur, get medical attention.
- Skin Contact: Wash with water and mild soap.

5. FIRE-FIGHTING MEASURES

- Suitable Extinguishing Media: CO₂, water spray, foam and dry chemical
- Extinguishing Media to Avoid: Full water jet
- Fire and Explosion Hazards: If dispersed in air, like most finely divided organic powders, may form an explosive mixture.
- Protection of Firefighters: Use self-contained breathing apparatus(SCBA).

6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions: None
- Environmental Precautions: None
- Methods for Cleaning Up: Wear personal protective equipment (See Section 8). Vacuum or sweep material and place in a bag and hold for waste disposal. Use vacuum equipped with High Efficiency Particulate Air(HEPA) filter. Vacuum should be electrically bonded and grounded to dispel static electricity. To avoid dust generation, do not sweep dry.
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7. HANDLING AND STORAGE

Handling

Technical Measures: None

Precautions: Do not breathe dust. Avoid contact with eyes.

Safe Handling Advice: Try not to disperse the particulates.

Storage

Technical Measures: None

Storage Conditions: Keep container closed. Store in a cool and dry place. Keep out of reach of children.

Incompatible Products: None

Packaging Materials: Bottles or Cartridge designated by Konica Minolta.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Ventilation: None required with intended use.

Control Parameters(As total dust)

OSHA-PEL(USA): 15mg/m³

ACGIH-TLV(USA): 10mg/m³

DFG-MAK(GER): 4mg/m³

Worksafe-TWA(Austl.): 10mg/m³

Personal Protective Equipment

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.

Hygiene Measures: Wash hands after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State: Solid

Color: Magenta

Form: Powder (mean dia. is 5-10um by volume)

Odor:

Almost odorless

PH

Not applicable

Boiling Point(°C):

Not applicable

Melting Point(°C):

Around 125C(275F) (Softening Point)

Flash Point(°C):

Not applicable

Ignition Temperature(°C):

No data available

Explosion Properties:

No data available

Vapor Pressure:

Not applicable

Specific Gravity:

1.2

Solubility:

Insoluble in water.

Partition Coefficient, n-Octanol/Water:

Not applicable



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10. STABILITY AND REACTIVITY

Stability:	Stable except above 200C(392F).
Hazardous Reactions:	Dust explosion, like most finely divided organic powders.
Conditions to avoid:	Electric discharge, throwing into fire.
Materials to Avoid:	Oxidizing materials.
Hazardous Decomposition Products:	CO, CO ₂ , NO _x and smoke.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingestion(oral), LD50(mg/kg):	>2000 (Rat)
Dermal, LD50(mg/kg):	No data available
Inhalation, LC50(mg/l):	>4.99 (Rat,4hour) (This was the highest attainable concentration.)
Eye irritation:	Minimal irritant (Rabbit)
Skin irritation:	Non irritant (Rabbit)

Skin sensitizer: Non sensitizer (Guinea pig)

Local Effects: see Chronic Toxicity or Long term Toxicity

Chronic Toxicity or Long Term Toxicity:

Prolonged inhalation of excessive dust may cause lung damage. It is attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust.

In a study in rats by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of rats in the high concentration(16mg/m³) exposure group, and a minimal to mild degree of fibrosis was noted in 22% of the animals in the middle(4mg/m³) exposure group. But no pulmonary change was reported in the lowest(1mg/m³) exposure group, the most relevant level to potential human exposures.

Carcinogenicity

In 2006 the IARC reevaluated titanium dioxide as a Group 2B carcinogen (possible human carcinogen). In animal chronic inhalation studies, the tumor formulation observed in only rats with animal chronic inhalation study are attributed to "lung overloading", a generic response to excessive amounts of any dust retained in the lungs for a prolonged interval. Use of this product, as intended, dose not result in inhalation of excessive dust. Epidemiological study to date have not revealed any evidence of the relation between exposure to titanium dioxide and diseases of the respiratory tract beyond general effects of dust.

Mutagenicity: Negative (AMES test)

Teratogenicity: No data available

(*= Based on data for other Konica Minolta Products with similar ingredients)



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12. ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment.

Ecotoxicity: No data available

Mobility: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

13. DISPOSAL CONSIDERATION

When disposing of the waste or recovered material, consult federal, state and/or local regulations for the proper disposal method.

14. TRANSPORT INFORMATION

Information on Code and Classifications According to International Regulations

UN Classification: None

15. REGULATORY INFORMATION

US Information

Information on the label: Not required

TSCA (Toxic Substances 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.

EU Information

Information on the label (1999/45/EC and 67/548/EEC): Not required

Article 14 (2.1) of Directive 1999/45/EC is not applicable to this product.

Canada Information

WHMIS: This product is NOT subject to the controlled products regulations.

16. OTHER INFORMATION

HMIS Rating: The National Paint and Coating Association (USA): Health: 1 Flammability: 1 Reactivity: 0

Recommended Uses: Toner for Electrophotographic Equipment

Explanation of term: IARC 2B means "possible human carcinogen".

Revision Information: Regular revision on revised date.



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MATERIAL SAFETY DATA SHEET

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MSDS No.: MFP-2272

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Literature References:

ANSI Z400.1-1993

ISO 11014-1

Commission Directive 91/155/EEC

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 17, pp.280-299.

Restrictions:

The above information is believed to be accurate and represents the best information currently available to Our Corporation. However, Our Corporation makes no warranty with respect to such information, and Our Corporation assumes no liability resulting from its use. Users should make their own investigation to determine the suitability of the information for their particular purposes.
