Safety Data Sheet

Section 1: Chemical Product and Company Identification

(a) Product identifier used on the label
   Product Name: TONER CARTRIDGE TYPE1175 BLACK (Black toner)

(b) Other means of identification
   SDS Number: 412675

(c) Recommended use of the chemical and restrictions on use
   General Use: The Image Formation of Printing Machine or Copier

(d) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
   Company Name: Ricoh Americas Corporation
   Department: Environmental Sustainability and Product Compliance
   Address: 5 Dedrick Place West Caldwell, NJ 07006 USA

(e) Emergency phone number.
   Telephone Number: 1-973-882-2000 or 1-973-882-5218 (For product information) or 1-800-336-6737 (for emergencies)
   Telefax Number: 1-973-882-3959
   E-mail: environmentinfo@ricoh-usa.com

Section 2: Hazards Identification

Classification

<table>
<thead>
<tr>
<th>Physical Hazard(s)</th>
<th>EXPLOSIVES</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FLAMMABLE GASES</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>FLAMMABLE AEROSOLS</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>OXIDIZING GASES</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>GASES UNDER PRESSURE</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>FLAMMABLE LIQUIDS</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>FLAMMABLE SOLIDS</td>
<td>Classification not possible</td>
</tr>
<tr>
<td></td>
<td>SELF-REACTIVE SUBSTANCES AND MIXTURES</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>PYROPHORIC LIQUIDS</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>PYROPHORIC SOLIDS</td>
<td>Classification not possible</td>
</tr>
<tr>
<td></td>
<td>SELF-HEATING SUBSTANCES AND MIXTURES</td>
<td>Classification not possible</td>
</tr>
<tr>
<td></td>
<td>SUBSTANCES AND MIXTURES, WHICH ON CONTACT WITH WATER, EMIT FLAMMABLE GASES</td>
<td>Classification not possible</td>
</tr>
<tr>
<td></td>
<td>OXIDIZING LIQUIDS</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>OXIDIZING SOLIDS</td>
<td>Classification not possible</td>
</tr>
<tr>
<td></td>
<td>ORGANIC PEROXIDES</td>
<td>Classification not possible</td>
</tr>
<tr>
<td></td>
<td>CORROSIVE TO METALS</td>
<td>Classification not possible</td>
</tr>
</tbody>
</table>
### HEALTH HAZARD(S)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Acute toxicity (inhalation - gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation - vapour)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation - dust and mist)</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Respiratory sensitizer</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Skin sensitizer</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Toxic to reproduction</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Target organ systemic toxicity following single exposure</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Target organ systemic toxicity following repeat exposure</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Classification not possible</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL HAZARD(S)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute hazards to the aquatic environment</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Chronic hazards to the aquatic environment</td>
<td>Classification not possible</td>
</tr>
<tr>
<td>Hazardous to the ozone layer</td>
<td>Classification not possible</td>
</tr>
</tbody>
</table>

---

#### Label element

<table>
<thead>
<tr>
<th>Element</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pictogram:</td>
<td>not applicable</td>
</tr>
<tr>
<td>Signal word(s):</td>
<td>not applicable</td>
</tr>
<tr>
<td>Hazard statement(s):</td>
<td>not applicable</td>
</tr>
<tr>
<td>Precautionary statement(s)</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**【Prevention】**

**【Response】** not applicable

**【Storage】** not applicable

**【Disposal】** not applicable

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**Specific Hazards**

Dust explosion (like most finely grained organic powders)

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### Section 3: Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Contents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyester Resin</td>
<td>80-95</td>
</tr>
</tbody>
</table>

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Section 4: First Aid Measures

(a) Necessary measures
Inhalation:
Remove from exposure into fresh air and rinse mouth with water. Seek medical advice.

Skin Contact:
Wash thoroughly with soapy water.

Eye Contact:
Flush with a large amount of water until particles are removed. Seek medical advice.

Ingestion:
Drink several glasses of water to dilute ingested toner. Seek medical advice.

(b) Most important symptoms/effects, acute and delayed.
Not available

(c) Indication of immediate medical attention and special treatment needed.
Immediate medical Attention:
Immediate medical attention is not required.

Section 5: Fire Fighting Measures

(a) Suitable (and unsuitable) extinguishing media.
Extinguishing Media to Avoid:
Not applicable.

(b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).
Specific Hazards:
Can form explosive dust-air mixtures when finely dispersed in air.

(c) Special protective equipment and precautions for fire-fighters.
Fire-Fighting Instructions / Specific Method:
No special fire protecting method is required. Sprinkling or fire extinguishers can be used.

Protection of Firefighters:
Wear gloves, glasses, a mask if necessary.

Section 6: Accidental Release Measures

(a) Personal precautions, protective equipment, and emergency procedures.
Personal Precautions:
Do not breathe in dust.

Environment Precautions:
Do not flush into sewers or watercourses.

(b) Methods and materials for containment and cleaning up.

Methods for Cleaning Up:
- Fine powder may form explosive dust-air mixture. Confirm there is no source of fire and if there is a source, remove it. Sweep up spilled powder slowly and clean remainder with wet cloth. If a vacuum cleaner is used, a dust explosion-proof type must be chosen.

Section 7: Handling and Storage

(a) Precautions for safe handling.

Handling:
- Technical Measures/Precautions
  - Not applicable

Safe Handling Advice
- Do not handle in areas where there is wind or draught, this may cause dust to get into eyes.
- Avoid breathing in dust.

(b) Conditions for safe storage, including any incompatibilities.

Storage:
- Technical Measures
  - Not applicable

Storage Conditions
- Keep out of reach of children.
- Store in dry, well-ventilated area, to maintain quality the temperature should not exceed 35 degrees centigrade for a long time. Avoid direct sunlight.

Packaging material
- Not applicable

Specific Use(s):
- Image formation in printing machines or copiers.

Section 8: Exposure Controls/Personal Protection

(a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit

Control Parameters

<table>
<thead>
<tr>
<th>Exposure Limit Value (1)</th>
<th>USA OSHA PEL (TWA)</th>
<th>ACGIH TLV (TWA)</th>
<th>DFG MAK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15mg/m³ (Total dust)</td>
<td>10mg/m³ (Inhalable fraction)</td>
<td>4.0mg/m³ (Total dust)</td>
</tr>
<tr>
<td></td>
<td>5.0mg/m³ (Respirable fraction)</td>
<td>3.0mg/m³ (Respirable fraction)</td>
<td>1.5mg/m³ (Respirable fraction)</td>
</tr>
</tbody>
</table>

Personal Protection

(b) Appropriate engineering controls.

Technical measures:
- Use adequate ventilation. None required with intended use.

(c) Individual protection measures, such as personal protective equipment.
Respiratory Protections (Specify Type)
None required in normal use. If the limit of exposure concentration is exceeded, use authorised respirator.

Eye Protection
Put on goggles if necessary.

Protective Gloves
Use vinyl or rubber gloves if necessary.

Protective Clothing or Equipment
Wear chemical-resistant apron or other impervious clothing if necessary.

Hygiene Measures
Wash hands after handling.

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Section 9: Physical and Chemical Properties

(a) Appearance (physical state, color, etc.)
- Physical state: Solid
- Form: Powder
- Colour: Black

(b) Odor
- Slightly plastic odor

(c) Odor threshold
- Not available

(d) pH
- Not applicable

(e) Melting point/freezing point
- (Softening point) Approx. 110 (degrees centigrade)

(f) Initial boiling point and boiling range
- Not applicable

(g) Flash point
- Not applicable

(h) Evaporation Rate (Butyl Acetate = 1)
- Not applicable

(i) Flammability (solid, gas)
- Not flammable

(j) Upper/lower flammability or explosive limits
- Upper Not available Lower Not available

(k) Vapor Pressure (Pa)
- Not applicable

(l) Vapor Density (AIR=1)
- Not applicable

(m) Relative density
- 1.2

(n) Solubility(ies)
- Water Solubility (g/L): Insoluble
- Chloroform Solubility (g/L): Slightly soluble

(o) Partition coefficient: n-octanol/water
- Not available
(p) Auto-ignition temperature : Not available

(q) Decomposition temperature (degrees centigrade) : Not available

(r) Viscosity (Pa·s) : Not applicable

**Section 10 : Stability and Reactivity**

(a) Reactivity
   Hazardous Reaction :
   Dust explosion, like most finely grained organic powders.

(b) Chemical stability :
   Stable

(c) Possibility of hazardous reactions :
   Not available

(d) Condition to Avoid :
   Not applicable in normal use.

(e) Incompatible materials :
   Not applicable in normal use.

(f) Hazardous decomposition products :
   Decomposition products will not occur.

**Section 11 : Toxicological Information**

(a) Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)
   ingestion, skin, inhalation, eye contact

(b) Symptoms related to the physical, chemical and toxicological characteristics
   Not available

(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure
   Not available

**Acute Toxicity**
   Acute Oral Toxicity (LD50) :
      5000 or over [mg/kg] (Rat)
   Acute Dermal Toxicity :
      Not available
   Acute Inhalation Toxicity :
      Not available

**Local effects**
   Acute Skin Irritation (PII) :
      Not available (Rabbit)
   Acute Eye Irritation :
      Not available (Ingredients are not classified as dangerous according to Directive 67/548/EEC.)
Sensitization
   Acute Allergenic Effects : 0 % (Marmot)

Mutagenicity : Negative (Ames test)
Reproduction Toxicity : Does not contain substances listed as hazardous to reproductive health.
Teratogenic : Not available

(d) Numerical measures of toxicity (such as acute toxicity estimates)
   Not available

(e) Whether the hazardous chemical is listed in the National Toxicology Program (NTP)
   Report on Carcinogens (latest edition) or has been found to be a potential carcinogen
   in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.
   Carbon black contained in this product is classified to Group 2B of IARC as the result of inhalation test in use of rat.
   But oral/skin test does not show carcinogenicity.
   The toner containing carbon black did not show carcinogenicity in chronic inhalation exposure test in use of rat.

Section 12: Ecological Information

Mobility : No data are available on any adverse effects on the environment.
Persistence/Degradability : Not available
Bioaccumulation : Not available

Ecotoxicity
   Acute Toxicity for Fish (LC50) : Not classified as toxic (EU Directive 1999/45/EC) mg/l/96hr
   Acute Toxicity for Daphnia (EC50) : Not classified as toxic (EU Directive 1999/45/EC) mg/l/48hr
   Algae Inhibition Test (IC50) : Not classified as toxic (EU Directive 1999/45/EC) mg/l/72hr

Section 13: Disposal Consideration

General information:
   Dispose of waste and residues in accordance with local authority requirements.

Disposal methods:
   Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal. Confirm disposal procedures with local regulations.

Precautions
   Do not throw the toner cartridge or toner into an open flame. Hot toner may scatter and cause burns or other damage.

Section 14: Transport Information

International Regulations
   Land Transport
RID/ADR : Not applicable
DOT 49 CFR : Not applicable
ADNR : Not applicable

Sea Transport
IMDG Code : Not applicable

Air Transport
ICAO-TI/IATA-DGR : Not applicable
UN Number : Not applicable
Class : Not applicable

Specific Precautionary Transport Measures and Conditions
Avoid direct sunlight in quality.

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Section 15 : Regulatory Information

Regulations

US Information

Information on the label :
Not required

TSCA (Toxic Substances Control Act) :
This toner complies with all applicable rules and regulations under TSCA.

SARA (Superfund Amendments and Reauthorization Act) Title III
313 Reportable Ingredients :
Not regulated

California Proposition 65
Not regulated

Canada Information

WHMIS Controlled product :
Not a controlled product

EU Information

Information on the label (EU Regulation (EC)No. 1272/2008)
Symbol & Indication : Not required
Hazard Statement : Not required
Precautionary statement : Not required

Special Precautions under EU Regulation 1272/2008 Annex II :
Not required

This product complies with applicable rules and regulations under 76/769/EEC

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Section 16 : Other Information


Both the HMIS and NFPA systems use numbers from "0" to "4" to show the degree of hazard in an uncontrolled situation:

0 = Minimum Hazard  1 = Slight Hazard  2 = Moderate Hazard  3 = Serious Hazard  4 = Severe Hazard

Colors may also be used in both systems:

Blue = Health Hazard  Red = Fire Hazard  Yellow = Reactivity Hazard  White = Indicate a special hazard

HMIS will specify any Personal Protective Equipment required [PPE],
NFPA will specify OX (oxidizer), Acid (acid), ALK (Alkali), COR (Corrosive), W (use no water), xx (Radioactive).

Literature References:

ANSI Z400.1-1993
ISO 11014-1


NIOSH CURRENT INTELLIGENCE BULLETIN "Evaluation of Health Hazard and Recommendation for Occupational Exposure to Titanium Dioxide DRAFT"

<table>
<thead>
<tr>
<th>ACGIH-TLV</th>
<th>: Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTP (USA)</td>
<td>: US Department of Health and Human Services National Toxicology Program Annual Report on Carcinogens</td>
</tr>
<tr>
<td>WHMIS Controlled product</td>
<td>: Canada Workplace Hazardous Information System</td>
</tr>
<tr>
<td>OELs-TWA (Australia)</td>
<td>: Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 3008 (1995)]</td>
</tr>
</tbody>
</table>

Abbreviations:

OSHA PEL : PEL (Permissible Exposure Limit) under Occupational Safety and Health Act
ACGIH-TLV : TLV (Threshold Limit Values) under American Conference of Governmental Industrial Hygienists
SVHC : Substances of Very High Concern
ECHA : The European Chemicals Agency
DFG-MAK : MAK (Maximale Arbeitsplatz Konzentrationen) by Deutsche Forschungs Gemeinschaft
RoHS : Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment
TWA : Time Weighted Average
IARC  International Agency for Research on Cancer
NTP   National Toxicology Program
WHMIS Workplace Hazardous Information System

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