Material Safety Data Sheet (ANSI form)

Date Prepared 2011/03/23

Section1 : Chemical Product and Company Identification

Product Name TONER CARTRIDGE TYPE1190 RC

Company Name : Ricoh Corporation
Address : 5 Dedrick Place, West Caldwell, NJ 07006
Telephone Number : 1-973-882-5218
Emergency Telephone Number : 1-800-336-6737
Telefax : 1-973-882-3959

Section2 : Composition, Information on Ingredients

Ingredients CAS No./Common Name	Contents (%)	ACGIH (TLV)			OSHA (PEL)	
		TWA	STEL	C	TWA	C
Confidentail Styrene Acrylic Polymer	>70	not available	not available	not available	not available	not available
1333-86-4 Carbon Black	1-10	3.5mg/m3	not available	not available	3.5mg/m3	not available
Confidential Softening materials	1-10	not available	not available	not available	not available	not available
7631-86-9 Amorphouse silica	0.1-1	10mg/m3	not available	not available	15mg/m3	not available
Confidential Tin Compound	0.1-1	2mg/m3	not available	not available	2mg/m3	not available
13463-67-7 Titan Oxide	0.1-1	10mg/m3	not available	not available	15mg/m3	not available
1314-60-9 Antimony oxide	0.1-1	0.5mg/m3	not available	not available	not available	not available

Section3 : Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

HMIS Health:1 Flammability:1 Reactivity:0 PPE:See section 8

Potential Health Effects

Primary Entry Routes:
Inhalation :Yes
Skin :Yes
Ingestion :Yes

Carcinogenicity
Carbon black and titanium dioxide contained in this product are 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.
In the animal experiment with very high concentration of titanium dioxide (excessive burden of rat's lungs clearance mechanism (overload phenomenon)), the rat alone showed lung tumor. Under a normal use practice, the concentration should be far lower than the above; and it is assumed that there is no such use.
Also, relation between respiratory disease and work exposure of titanium dioxide is not observed with epidemiological survey.

Medical Conditions Aggravated by Exposure:
Not applicable

Chronic Effects
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 lung for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust.

Section4 : First Aid Measures

Inhalation
Remove from exposure to 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.

Section5 : Fire Fighting Measures

Flash Point (℃)
Not applicable
Burning Rate (mm/sec)
Not available
Autoignition Temperature (℃)
Not available
Flammable Limits (%)
LEL Not available
UEL Not available

Extinguishing Media
CO2, dry chemicals, foam or water.

Fire-Fighting Instructions
No special fire protecting method is required. Sprinkling or fire extinguishers can be used.

Section6 : Accidental Release Measures

Personal Precautions
Do not breathe in dust.

Environment Precautions
Do not flush into sewers or watercourses.

Methods for Cleaning Up
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.

Section7 : Handling and Storage

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

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

Section8 : Exposure Controls/Personal Protection

Ventilation

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.

Section9 : Physical and Chemical Properties

Form : Powder
Color : Black
Odor : Slightly plastic odour

pH	: Not applicable	Measuring Temp.(℃)	: -
Boiling Point(℃)	: Not applicable		
Vapor Pressure(Pa)	: Not applicable	Measuring Temp.(℃)	: -
Vapor Density(AIR=1)	: Not applicable		
Density (g/cm3)	: 1.15	Measuring Temp.(℃)	: -
Formula Weight	: Not applicable		
Melting Point(℃)	: (Softening point) Approx.110		
Viscosity(mPa·s)	: Not applicable	Measuring Temp.(℃)	: -
Volatile(%)	: 0.2 or below		
Evaporation Rate (Butyl Acetate = 1)	: Not applicable		
Water Solubility(g/L)	: Insoluble	Measuring Temp.(℃)	: -
Other Solvent name	: Chloroform		
Other Solvent Solubility(g/L)	: Slightly soluble	Measuring Temp.(℃)	: -

Section10 : Stability and Reactivity

Condition to Avoid
Not applicable in normal use.

Materials to Avoid
Not applicable in normal use condition.

Hazardous Polymerization : None

Hazardous Decomposition or Byproducts
will not occur

Section11 : Toxicological Information

Acute Toxicity
Acute Oral Toxicity
: 2000 or over (Rat) (Based on other product test results of similar ingredients.)
Acute Dermal Toxicity
: Not available
Acute Inhalation Toxicity
: over 5 (Rat)

Local Effects
Acute Eye Irritation : slightly irritant(Slightly irritant to a mucous membrane of eye.)
Acute Skin Irritation(PII) : 1.0 or below (Based on other product test results of similar ingredien
Sensitization
Acute Allergenic Effects : non-skinsensitive(Based on other product test results of similar ingredients.)
Specific Effects
Carcinogenicity :
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Mutagenicity : negative(Ames test)
Effects on The Reproductive System : Does not contain substances listed as hazardous to reproductive health.
Teratogenic : Not available.

Section12 : Ecological Information

Persistence/Degradability :

Bioaccumulation
Not known in bioaccumulation.

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 (IC50) :Not classified as toxic (EU Directive 1999/45/EC) (mg/l/72hr)

Section13 : Disposal Consideration

Recommended Methods for Safe Environmentally Preferred Disposal
Dispose of waste and residues in accordance with local authority requirements.

Section14 : Transport Information

International Regulations
DOT 49 CFR : Not applicable
IMDG Code : Not applicable
Air Transport
ICAO-TI/IATA-DGR : Not applicable
The UN Classification Number : Not applicable

Specific Precautionary Transport Measures
Avoid direct sunlight in quality.

Specific Materials to Avoid
None in the normal transport.

Section15 : Regulation Information

Regulations
Not applicable

Section16 : Other Information

Explanation of Hazardous Materials Identification System [HMIS]& National Fire Protection Association [NFPA] Hazard Rating Systems:
Both the HMIS and NFPA systems use number 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 reqired [PPE],
NFPA will specify OX(oxidizer), Acid(acid), ALK(Alkali), COR(Corrosive), W(use no water), xx(Radioactive).

References:

IARC(1996) "IARC Monograph on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, Vol.65, Printing Process and Printing Inks, Carbon Black and Some Nitro Compounds", Lyon, pp149-261
H.Muhle, B.Bellman, O.Creutzenberg, C.Dasenbrock, H.Emst, 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,pp280-299

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