RICOH **MATERIAL SAFETY DATA SHEET**

Date Prepared : 20.1.01

MSDS Number : 887717

Savin Toner

Product Number: 7354

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name : Savin Toner
Product Number : 7354
Chemical Name : Mixture
CAS Number : 0-00-0

Company Identification

Company Name : Ricoh Corporation
Address : 5 Dedrick Place
West Caldwell, NJ USA 07006
Emergency telephone Number : 1-800-336-MSDS (6737)
Telephone Number for Information : 1-973-882-5218

Model use: 9013, 9013Z, 9113, 9113Z

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS #	Contents %	ACGIH (TLV) TWA	ACGIH (TLV) STEL	ACGIH (TLV) C	OSHA (PEL) TWA	OSHA (PEL) C
Styrene Acrylic Polymer	25036-19-5	55-65	N/A	N/A	N/A	N/A	N/A
Polyester Resin	Confidential	20-30	N/A	N/A	N/A	N/A	N/A
Polyolefine	9003-07-0	3-5	N/A	N/A	N/A	N/A	N/A
Carbon Black	1333-86-4	10-15	3.5mg/m3	N/A	N/A	3.5mg/m3	N/A

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview

HMIS Health = 1 Flammability = 1 Reactivity = 0 PPE : See Section 8

Potential Health Effects

Primary Entry Routes

Inhalation : Yes
Skin : No
Ingestion : Yes

Carcinogenicity : Carbon Black was reclassified as a Group 2B by IARC in 1996 based on the result of only the inhalation study in rats. However there was not observed the incidence of tumors on the test result on dermal or oral studies. Also 2-years inhalation study using a typical toner containing carbon black showed no association between toner exposure and animal tumors.

Medical Conditions Aggravated by Exposure :

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.

SECTION 4 FIRST AID MEASURES

Inhalation : Gargle with water, move to place in fresh air. If unsuccessful, get medical attention.
Skin contact : Wash thoroughly with soap and water.
Eye Contact : Try to remove with eye drops or flush with water. If unsuccessful, get medical attention.
Ingestion : Dilute stomach contents with several glasses of water. If unsuccessful, get medical attention.

SECTION 5 FIRE-FIGHTING MEASURES

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

Extinguishing Media : CO_2, dry chemicals, foam or water.
Fire-Fighting Instructions : No special fire protecting method is required.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions : Minimize inhalation of dust.
Environment Precautions : Keep product out of sewers and watercourses.
Method for Cleaning up : If spilled, sweep up or pick up by vacuum cleaner(rated for toner extraction).
Remove residue with soap and water.

SECTION 7 HANDLING AND STORAGE

Handling (technical measures, precautions, safe handling material)
Do not handle in areas where wind blows.
Flying powder may enter eyes.
Minimize breathing dust.
Storage (technical measures, storage condition, packaging material)
Avoid direct sunlight.
Do not keep this over 35 C (95 F)
Keep out of reach children.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation : None needed under normal use condition.
Respiratory Protections (Specify type) : None required under normal conditions of use.
Eye Protection : None required under normal conditions of use.
Protective Gloves : None required under normal conditions of use.
Protective Clothing or Equipment : None required under normal conditions of use.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Form : Powder
Color : Black
Odor : Slightly plastic odor

pH :	Not applicable
Boiling Point (C) :	Not applicable
Vapor Pressure(Pa) :	Not applicable
Vapor density(Air=1) :	Not applicable
Density (g/cm3) :	approx. 1.2
Formula Weight :	Not applicable
Melting Point (C) :	Not applicable
Viscosity (Pa) :	Not applicable
Volatile (%) :	-
Evaporation Rate(n-BuAc=1) :	Not applicable
Water Solubility (g/L) :	Insoluble
Other Solvent name :	-
Other Solvent Solubility(g/L) :	-

SECTION 10 STABILITY AND REACTIVITY

Stability :	Stable
Condition to Avoid :	Not applicable in normal use.
Material to Avoid :	None under normal use condition.
Hazardous Polymerization :	None
Hazardous Decomposition or Byproducts :	Carbon dioxide; Water

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

Acute Oral Toxicity :	>= 5000 mg/kg	(The acute lethal oral does to rats of this toner was demonstrated to be greater than 5000mg/kg bodyweight.)
Acute Dermal Toxicity :	Not applicable	
Acute Inhalation Toxicity :	Not applicable	

Sensitization

Acute Skin Irritation :	Non-irritant (PII=0.0)
Acute Eye Irritation :	Not applied
Acute Allergenic Effects :	Non-skinsensitive (Did not produce evidence of skin sensitization.)

Special Effects

Carcinogenicity :

In 1996 IARC reevaluated Carbon Black as a Group 2B carcinogen (possible human carcinogen). This evaluation is given to carbon black for which there is inadequate human evidence, but sufficient animal evidence. The latter is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats have not demonstrated as association between carbon black and lung tumors. Moreover, 2-years cancer bioassay using a typical toner preparation containing carbon black did not demonstrate an association between toner exposure and tumor development in rats.

Mutagenicity :	Negative (shows on evidence of mutagenic activity)
Effects on the reproductive system :	Not available.
Teratogenic :	Not available.

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SECTION 12 ECOLOGICAL INFORMATION

Persistence/Degradability : Not known
Bioaccumulation : Not known
Ecotoxicity
Acute toxicity for Fish : Not available.
Acute toxicity for daphnia : Not available.
Algae inhibition test : Not available.

SECTION 13 DISPOSAL CONSIDERATION

Recommended Methods for safe Environmentally Preferred Disposal

Used toner should be disposed of in an environmentally appropriate manner and in accordance with governmental regulations. Do not incinerate.

SECTION 14 TRANSPORT INFORMATION

International regulations

RID/ADR : Not applicable
DOT 49 CFR : Not applicable
ADNR : Not applicable
IMDG Code : Not applicable
ICAO-TI/ATA-DGR : Not applicable
The UN Classification Number : Not applicable

Specific Precautionary Transport Measures: Avoid direct sunlight. Do not keep this over 35 C (95 F)
Specific Materials to Avoid : None in normal use.

SECTION 15 REGULATION INFORMATION

Regulation : Not known

SECTION 16 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 required (PPE).
NFPA will specify OX(oxidizer), Acid(acid), ALK(alkali), COR(corrosive), W(use no water), xx(radioactive).

References:

1) 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
2) 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 Rat" Fundamental and Applied Toxicology 17,pp280-299

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