

RICOH MATERIAL SAFETY DATA SHEET

Savin Toner Type ST27 (Black)

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Product Identification**

Product Name : Savin Toner Type ST27 (Black)
 Product Number : 9846
 Chemical Name : Mixture
 CAS Number : 0-00-0

Company Identification

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

General use: 9922DP, 9927DP, SLP27, SLP32

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS #	Contents %	ACGIH (TLV)			OSHA (PEL)	
			TWA	STEL	C	TWA	C
Polyester Resin	(confidential)	50 - 80	8mg/m3	10mg/m3	N/A	N/A	N/A
Styrene Acrylic Polymer	25767-47-9	10 - 40	N/A	N/A	N/A	N/A	N/A
Carbon Black	1333-86-4	<15	3.5mg/m3	N/A	N/A	3.5mg/m3	N/A
Wax	8015-86-9	<5	N/A	N/A	N/A	N/A	N/A
Dye	31714-55-3	<5	N/A	N/A	N/A	N/A	N/A

SECTION 3 HAZARDS IDENTIFICATION**Emergency Overview**

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

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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 : CO2, dry chemicals, foam or water.
Fire-Fighting Instructions : Generally by sprinkling or extinguisher.

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

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Odor :	Slightly plastic odor	
pH :	Not applicable	Measuring Temp. (°C) : -
Boiling Point (C) :	Not applicable	
Vapor Pressure(Pa) :	Not applicable	Measuring Temp. (°C) : -
Vapor density(Air=1) :	Not applicable	
Density (g/cm3) :	Approx. 1.2	Measuring Temp. (°C) : 25
Formula Weight :	Not applicable	
Melting Point (C) :	Not applicable	
Viscosity (Pa) :	Not applicable	Measuring Temp. (°C) : -
Volatile (%) :	-	
Evaporation Rate(n-BuAc=1) :	Not applicable	
Water Solubility (g/L) :	Insoluble	Measuring Temp. (°C) : -
Other Solvent name :	-	
Other Solvent Solubility(g/L) :	-	Measuring Temp. (°C) : -

SECTION 10 STABILITY AND REACTIVITY

Condition to Avoid :	Not applicable in normal use.
Material to Avoid :	Not applicable in normal use.
Hazardous Polymerization :	None
Hazardous Decomposition or Byproducts :	Styrene

SECTION 11 TOXICOLOGICAL INFORMATION**Acute Toxicity**

Acute Oral Toxicity : Rat: >5000mg/kg

Acute Dermal Toxicity : Not available.

Acute Inhalation Toxicity : Not available.

Sensitization

Acute Skin Irritation : Non-irritant

Acute Eye Irritation : Not applied

Acute Allergenic Effects : Non-skinsensitive

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

Effects on the reproductive system : No data is available on this product.

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Teratogenic : Not available.

SECTION 12 ECOLOGICAL INFORMATION

Persistence/Degradability : Not known
 Bioaccumulation : Not known in bioaccumulation
 Ecotoxicity Acute toxicity for Fish : >500 (mg/kg/96hr)
 Acute toxicity for daphnia : Not available. (mg/kg/48hr)
 Algae inhibition test : Not available. (mg/kg/72hr)

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"

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