

RICOH MATERIAL SAFETY DATA SHEET

RICOH TONER CARTRIDGE TYPE 450

Date Prepared : 1/20/2001
MSDS Number : 887718
Product Number: 887718

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification
Product Name : RICOH TONER CARTRIDGE TYPE 450
Product Number : 887718
Chemical Name : Mixture
CAS Number : 0-00-0

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

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

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

SECTION 3 HAZARDS IDENTIFICATION

Emergency Overview			
HMS	Health = 1	Flammability = 1	Reactivity = 0
			PPE : See Section 8

Potential Health Effects
Primary Entry Routes Inhalation : Yes

RICOH MATERIAL SAFETY DATA SHEET
 RICOH TONER CARTRIDGE TYPE 450

Date Prepared : 1/20/2001
 MSDS Number : 887718
 Product Number: 887718

Skin : No
 Ingestion : No

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 that results 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 : 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.

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

Extinguishing Media : Foam, water spray (mist), dry chemical or carbon dioxide may be suitable.
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 developer extraction).

RICOH MATERIAL SAFETY DATA SHEET

RICOH TONER CARTRIDGE TYPE 450

Date Prepared : 1/20/2001
MSDS Number : 887718
Product Number: 887718

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 35C (95F)
Keep out of reach children.

SECTION 8 EXPOSURE CONTROL/PERSONAL PROTECTION

Ventilation

Local exhaust equipment is needed.

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)

1.2 approximately

Formula Weight

Not applicable

Melting Point (C)

Not applicable

Viscosity (Pa)

Not applicable

Volatile (%)

-

Evaporation Rate(n-BuAc=1)

Not applicable

RICOH MATERIAL SAFETY DATA SHEET

RICOH TONER CARTRIDGE TYPE 450

Date Prepared : 1/20/2001
MSDS Number : 887718
Product Number: 887718

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 Not applicable in normal use.
Hazardous Polymerization None
Hazardous Decomposition or Byproducts Will not occur

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity Acute Oral Toxicity : Rat : >= 5000 mg/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 : 0%

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 an 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.
Teratogenic No data

RICOH MATERIAL SAFETY DATA SHEET

RICOH TONER CARTRIDGE TYPE 450

Date Prepared : 1/20/2001
MSDS Number : 887718
Product Number: 887718

SECTION 12 ECOLOGICAL INFORMATION

Persistence/Degradability	Not known
Bioaccumulation	Not known in bioaccumulation
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/IATA-DGR	Not applicable
The UN Classification Number	Not applicable

Specific Precautionary Transport Measures Avoid direct sunlight. Do not keep this over 35C (95F)
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.

RICOH MATERIAL SAFETY DATA SHEET

RICOH TONER CARTRIDGE TYPE 450

Date Prepared : 1/20/2001
MSDS Number : 887718
Product Number: 887718

0=Minimum hazard 1=Slight hazard 2=Moderate hazard 3=Serious hazard 4=Severe hazard.

Colors may 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(water), XR(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.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, pp280-299