

Safety Data Sheet (ISO form)

Date Prepared 08/09/2005

1. Product and Company Identification

Product Name DEVELOPER TYPE 28 BLACK(B1219640)

Company Name : Ricoh Company, Ltd.

Department : Environment Safety Center, Corporate Environment Division

Address : 146-1 Nishisawada, Numazu-shi, Shizuoka-ken, 410-0007 Japan

Telephone Number : 055-920-1470, Japan

Emergency Telephone Number : 055-920-1470, Japan

Telefax Number : 055-920-1479, Japan

2. Composition/Information on Ingredients

Substance or Preparation

Preparation

Chemical Nature

Ingredients	CAS.No.	Contents(%)
Cu-Zn Ferrite (Iron Oxide 65~75%, Copper Oxide 10~20%, Zink Oxide 10~20%)	66402-68-4	90-100
Polyester Resin	Confidential	<10
Carbon Black	1333-86-4	<1

3. Hazards Identification (Most Important Hazard)

Adverse Human Health Effects

Not applicable in normal use.

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 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.

Environmental Effects

None

Physical and Chemical Hazards

Not applicable in normal use.

The Classification of The Chemical Product

Not Applicable

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

Immediately wash eyes with plenty of water. If unsuccessful, get medical attention.

Ingestion

Dilute stomach contents with several glasses of water.

5. Fire-Fighting Measures

Extinguishing Media

CO₂, dry chemicals, foam or water.

Specific Method

No special fire protecting method is required.

6. Accidental Release Measures

Personal Precautions

Minimize inhalation of dust.

Environment Precautions

Keep product out of sewers and watercourses.

Methods for Cleaning Up

If spilled, sweep up or pick up by vacuum cleaner (rated for developer extraction).

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 conditions, packaging material)

Avoid direct sunlight.

Do not keep this over 35 degrees centigrade.

Keep out of reach of children.

8.Exposure Controls/Personal Protection

Respiratory Protections

[None required under normal conditions of use.](#)

Hand Protection

[None required under normal conditions of use.](#)

Eye Protection

[None required under normal conditions of use.](#)

Skin and Body Protection

[None required under normal conditions of use.](#)

9.Physical and Chemical Properties

Appearance

Form : [Powder](#)

Color : [Black](#)

Odour : [Slightly plastic odor](#)

Information

pH : [not applicable](#) Measuring Temp.(degrees centigrade) : -

Boiling Point(degrees centigrade) : [not applicable](#)

Flash Point(degrees centigrade) : [not applicable](#)

Explosion Properties(degrees centigrade) : [This product is considered a nonexplosive material under normal use condition.](#)

Vapor Pressure(Pa) : [not applicable](#) Measuring Temp.(degrees centigrade): -

Vapor Density(AIR=1) : [not applicable](#)

Density (g/cm3) : [Approx. 5](#) Measuring Temp.(degrees centigrade): [25](#)

Solubility

Water Solubility(g/L) : [Insoluble](#)

Water Solubility Measuring Temp.(degrees centigrade) : -

Other Solvent name : -

Other Solvent Solubility(g/L) : -

Other Solvent Solubility Measuring Temp.(degrees centigrade) : -

Octanol/Water Partition Coefficient

[not known](#)

10.Stability and Reactivity

Conditions to Avoid

[Not applicable in normal use.](#)

Materials to Avoid

[Not applicable in normal use.](#)

Hazardous Decomposition Products

[Decomposition product will not occur](#)

11.Toxicological Information

Acute Toxicity

Acute Oral Toxicity (LD50)

: [5000mg/kg or over \(Rat\) \(Based on data of other Ricoh products with similar ingredients.\)](#)

Acute Dermal Toxicity

: [not available](#)

Acute Inhalation Toxicity

: [not available](#)

Sensitization

Local effects

Acute Skin Irritation(PII) : [non-irritant\(Based on data of other Ricoh products with similar ingredients.\)](#)

Acute Eye Irritation : [not available\(-\)](#)

Sensitization

Acute Allergenic Effects : [non-skinsensitive\(Ingredients of this product are not listed in Annex 1 to directive 67/548/EEC.\)](#)

Specific 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\(Ames test\)](#)

Effects on The Reproductive System : [non-reproductive toxicity \(Ingredients of this product are not listed in Annex 1 to directive 67/548/EEC.\)](#)

Teratogenic : [Not available](#)

12.Ecological Information

Persistence/Degradability : [not known](#)

Bioaccumulation

[Not known in bioaccumulation.](#)

Ecotoxicity

Acute Toxicity for Fish (LD50) : [Not classified as toxic \(EU Directive 1999/45/EC\)](#)
(mg/kg/96hr)

Acute Toxicity for Daphnia (EC50) : [Not classified as toxic \(EU Directive 1999/45/EC\)](#)
(mg/kg/48hr)

Algae Inhibition Test(IC50) : [Not classified as toxic \(EU Directive 1999/45/EC\)](#)
(mg/kg/72hr)

13.Disposal Consideration

Recommended Methods for Safe Environmentally Preferred Disposal

(waste from residues/contaminated packaging)

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

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](#)
The UN Classification Number: [not applicable](#)

Specific Precautionary Transport Measures

[Avoid direct sunlight.-Do not this over 35 degrees centigrade.](#)

Specific Materials to Avoid

[None in normal use.](#)

15.Regulation Information

Regulations

[not available](#)

16.Other Information

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

Disclaimer:

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of RICOH COMPANY, LTD.
It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.
RICOH COMPANY, LTD assumes no legal responsibility for use or reliance upon-this information.