

Material Safety Data Sheet

In accordance with EU REACH Regulation (EC) No 1907/2006, EPSON has considered that a Safety Data Sheet is not required for the toner contained in this cartridge. To insure Epson's compliance with REACH information requirements, we will provide preparation information under the following format. Epson is not obliged to provide this information within European local languages.

1. Identification of The Substance/Preparation and of The Company/Undertaking

1.1. Identification of the preparation: DEVELOPER CARTRIDGE S050010

1.2. Use of the substance/preparation: Laser Printing

1.3. Company/undertaking identification

Manufacturer/Distributor: SEIKO EPSON CORPORATION
Address: 80 Harashinden, Hirooka,
Shiojiri-shi, Nagano-ken, 399-0785
JAPAN

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Revision: A

1.4. Emergency telephone: +81-263-52-2552 (Mon-Fri, 9AM-5PM JST)

2. Hazards Identification

2.1. Emergency Overview:

This toner does not meet the criteria for dangerous classification according to EU Directive 1999/45/EC. This toner is a Black powder that may cause eye irritation. Avoid contact with eyes or clothing. In the case of skin contact, wash with soap and water. Keep out of reach of children.

2.2. Potential Health Effects:

Eyes: Toner contact with eye may be mildly irritating.

Skin: Toner contact with skin may cause irritation, swelling or redness.

Inhalation: Prolonged inhalation of excessive toner may cause respiratory tract irritation.

Ingestion: May cause upset stomach.

3. Composition/Information on Ingredients

This toner is a preparation.

Composition	CAS No.	EEC No.	EU registration No.	% By Weight	EU Symbols	EU R-phrase	EU OELs	Remark
Polyester resin	Trade secret	Trade secret	Not available for the moment	> 90	None	None	None	None
Polyolefin wax	Trade secret	Trade secret	Not available for the moment	1 – 5	None	None	None	None
Carbon black	1333-86-4	215-609-9	Not available for the moment	1 – 5	None	None	None	None
Organic pigment	Trade secret	Trade secret	Not available for the moment	1 – 5	None	None	None	None
Amorphous silica	7631-86-9	231-545-4	Not available for the moment	< 1	None	None	None	None

4. First Aid Measures

- 4.1. Eyes:** Immediately flush with room temperature, low pressure and clean water for at least 15 minutes. Seek medical attention if eye irritation continues.
- 4.2. Skin:** Wash surface areas with soap and water. Wash soiled clothing before re-wearing. Consult a physician if irritation continues.
- 4.3. Inhalation:** Remove subject to ventilated fresh air. If not breathing, give artificial respiration right away. If breathing is difficult, give oxygen. Seek immediate medical attention.
- 4.4. Ingestion:** Seek medical advice; and attention if stomach continues to be upset.

5. Fire-Fighting Measures

- 5.1. Flammability:** This material has no unusual fire or explosive hazards.
- 5.2. Extinguishing Media:** Dry chemical, carbon dioxide or water spray
- 5.3. Fire Fighting Instructions:** No special fire fighting procedures are required other than breathing apparatus. No special explosion hazards are known.

6. Accidental Release Measures

- 6.1. Personal precautions:** Eye or Skin protection required during clean-up.
- 6.2. Environmental precautions:** Do not release to sewer, surface- or ground-water.
- 6.3. Methods for cleaning up:** Use wet sponges or cloths to wipe-up the materials, then rinse area with damp cloth. Place waste in closed container for disposal. Do not dispose of waste to the sewer. Wash hands with soap and water.

7. Handling And Storage

- 7.1. Handling:** Keep out of reach of children. Do not dismantle cartridge.
- 7.2. Storage:** Do not store the cartridge in high or freezing temperatures. Keep cartridge out of direct sunlight. Do not store cartridges with oxidizing agents or explosives.
- 7.3. Specific use(s):** Not specified

8. Exposure Controls and Personal Protection

8.1. Exposure limit values:

As total dust

- US: ACGIH-TLV is: 10mg/m³
US: OSHA-PEL is: 15mg/m³
Germany: DFG-MAK is: 4mg/m³
Australia: Worksafe-TWA is: 10mg/m³

8.2. Exposure Controls:

8.2.1. Occupational exposure control

Proper ventilation, in prevention

8.2.1.1. Respiratory protection

Not required under suitable use as setting the cartridge on the printer.

8.2.1.2. Hand protection

Not required under suitable use as setting the cartridge on the printer.

8.2.1.3. Eye protection

Not required under suitable use as setting the cartridge on the printer.

8.2.1.4. Skin protection

Not required under suitable use as setting the cartridge on the printer.

8.2.2. Environmental exposure control

Not established

9. Physical and Chemical Properties of Toner Formulation

9.1. General information

Appearance: Black powder
Odor: Faint odor

9.2. Important health, safety and environmental information

pH: Not applicable
Boiling point: Not applicable
Flash point: Not applicable
Flammability (solid, gas): Not flammable
Explosive properties: No data available
Oxidizing properties: No data available
Vapor pressure: Not applicable
Relative density: No data available
Solubility: No data available
Water solubility: Negligible
Partition coefficient: n-octanol/water: Not applicable
Viscosity: Not applicable
Vapor density: Not applicable
Evaporation rate: No data available

9.3. Other information

Melting point: No data available

10. Stability and Reactivity

Stability: Stable under normal temperature
Hazardous polymerization: Will not occur

10.1. Conditions to avoid: High and freezing temperatures, electric discharge

10.2. Materials to avoid: Oxidizers and explosives

10.3. Hazardous decomposition products: CO, CO₂ and NO_x

11. Toxicological Information

Routes Of Overexposure: Eye, skin, inhalation, and oral

Acute Health Hazards:

- Overexposure of eye surface to toner may be mildly irritating
- Overexposure of skin to toner contact may cause irritation and in some people swelling and redness
- Intentional inhalation overexposure to toner may result in respiratory tract irritation
- Intentional or accidental oral ingestion may cause an upset stomach

Chronic Health Hazards: 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 lungs for a prolonged interval. Use of this product, as intended, does not result in inhalation of excessive dust.

In a study in rats by chronic inhalation exposure to a typical toner, a mild to moderate degree of lung fibrosis was observed in 92% of rats in the high concentration (16mg/m³) exposure group, and a minimal to mid degree of fibrosis was noted in 22% of the animals in the middle (4mg/m³) exposure group. But no pulmonary change was reported in the lowest (1mg/m³) exposure group, the most relevant level to potential human exposures.

Mutagenicity: Negative (by Ames test)

Carcinogenicity: Carbon Black is classified as “Group 2B (possibly carcinogenic to humans)” by IARC, the International Agency for Research on Cancer. With excessive exposure, carbon black has been listed as a possible human carcinogen. However, we obtained the results from a Chronic Toner Inhalation Study, that commercially available toner has

no evidence of human carcinogens. All other ingredients are not classified as "Carcinogens".

Toxicity Data: Oral LD₅₀: >5000 mg/kg (Rat) (practically non-toxic)
 Dermal LD₅₀: >2000 mg/kg (Rabbit) (practically non-toxic)
 Inhalant LC₅₀: >0.74mg/L/4hr (Rat) (practically non-toxic)
Eye irritating: Not an irritant (Rabbit)
Skin irritating: Not an irritant (Rabbit)
Skin sensitizing: Not a sensitizer (Guinea-pig)

12. Ecological Information

12.1. Ecotoxicity No data available on the adverse effects of this toner on the environment
12.2. Mobility No data available on the adverse effects of this toner on the environment
12.3. Persistence and degradability No data available on the adverse effects of this toner on the environment
12.4. Bioaccumulative potential No data available on the adverse effects of this toner on the environment
12.5. Result of PBT assessment Has not carried out PBT assessment
12.6. Other adverse effects No data available

13. Disposal Considerations

Disposal should be in accordance with federal, state, and local requirements.

14. Transport Information

UN Class/UN Number: Not applicable

15. Regulatory Information

EU Information:

Chemical Safety Assessment according to (EC)1907/2006:

This toner has not carried out any Chemical Safety Assessment yet.

Symbols and indication according to 1999/45/EC:

This toner does not meet the criteria for classification as dangerous.

US Information:

TSCA Section 4(a) Final Test Rules Regulated: Not regulated

TSCA Section 8(a) Preliminary Assessment Information Rule (PAIR): Not regulated

TSCA Section 8(a) Inventory Update Rule:

Subject to a Special Regulatory Action under TSCA (2002 EPA Instructions, App. B) Not regulated

TSCA Section 12(b) One-Time Export Notification Regulated: Not regulated

California Proposition 65: Not regulated

Canada Information:

WHMIS Controlled Product: Not applicable (Manufactured article)

Australia Information:

Statement of Hazardous Nature: Not classified as hazardous according to criteria of NOHSC

16. Other Information

List of relevant R-phrases: Nothing

This "Material Safety Data Sheet" contains health, safety, and environmental information. It does not replace any precautionary language or use and disposal information which accompanies the product. The information contained herein is believed to be accurate at the time of preparation, but should only be used as a guide. It is subject to revision from time to time. EPSON does not warrant the completeness or accuracy of the information contained herein.