

Material Safety Data Sheet

1. Article and Corporate Identification

Product: Epson Yellow Toner Cartridge S050191
for use with Epson AcuLaser CX11N and
CX11NF Printers

Manufacturer/Distributor: Epson America, Inc.
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The **EPSON S050191** Toner Cartridge

2. Composition Information

Toner is a moist powdered formulation

Ink Composition	CAS No.	% By Weight
Styrene/acrylate copolymer mixture	-	60 – 70%
Mn-Mg-Sr ferrite powder	-	10 – 20%
Proprietary acrylic resin	-	1 –10 %
Proprietary yellow pigment	-	1 –10 %
Amorphous silica	-	1 –10%
Carbon Black	1333-86-4	1 –10%

3. Hazard Identification

3.1 Emergency Overview: Toner is a moist yellow 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.

3.2 Potential Health Effects:

Eyes: Toner contact with eye may be mildly irritating. See Section 11 for Toxicology.

Skin: Toner contact with skin may cause irritation, swelling, or redness. It is not expected to cause an allergic skin reaction. See Section 11 for Toxicology.

Inhalation: Intentional exposure to toner may cause respiratory irritation. See Section 11 for Toxicology.

Ingestion: May cause upset stomach. See Section 11 for Toxicology.

4. First Aid Measures

- 4.1 *Eyes:* Immediately flush with room temperature, low pressure, 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 rewearing. Seek medical attention if irritation continues.
- 4.3 *Inhalation:* Remove subject to ventilated fresh air. Consult physician if necessary or if cough develops.
- 4.4 *Ingestion:* Rinse mouth with water. Seek medical attention if stomach continues to be upset.

5. Fire Fighting Measures

- 5.1 *Flammability:* Flash point is greater than 230 °F / 110 °C (closed cup in accordance with ASTM D3278)
- 5.2 *Extinguishing Media:* Dry chemical or carbon dioxide
- 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

Shut off ignition sources. If a spill occurs, use moist sponges to wipe-up toner, then rinse area with damp cloth. Place waste in closed container for disposal. Use proper ventilation. Do not dispose of waste to the sewer. No eye or skin protection required during clean-up if toner is not dispersed into air. Wash hands with soap and water.

7. Precautions for Safe Handling and Use

Keep out of reach of children, do not dismantle, and do not incinerate cartridge. Keep cartridge in dark, cool, dry, and well ventilated area. Do not store cartridges with oxidizing agents. Make sure cartridge is dry before insertion into printer housing. Avoid dispersing toner.

8. Exposure Controls and Personal Protection

- 8.1 *Engineering Controls:* None required when cartridges are used as intended
- 8.2 *Exposure Controls:* None required when cartridges are used as intended. Otherwise, ACGIH TLV (2003): 10mg/cubic meter (total)
3mg/cubic meter (respirable)
- 8.3 *Personal Protection:* None required when cartridges are used as intended

9. Physical and Chemical Properties of Ink Formulation

<i>Appearance:</i>	Moist Yellow Powder
<i>Odor:</i>	Slight
<i>pH:</i>	Organically neutral
<i>Boiling point:</i>	Not applicable
<i>Freezing point:</i>	Not applicable
<i>Softening point:</i>	120 –130 °C
<i>Flash point:</i>	> 230 °F / 110 °C (CC)
<i>Autoflammability:</i>	Over 300 °C
<i>Explosive properties:</i>	None
<i>Oxidizing properties:</i>	None
<i>Vapor density:</i>	Not applicable
<i>Relative density:</i>	1.12 at 68 °F / 20 °C
<i>Solubility in water:</i>	Negligible
<i>Solubility in fat:</i>	No data available
<i>Partition coefficient:</i>	No data available
<i>Viscosity:</i>	Less than 5 mPa-s

10. Stability and Reactivity

<i>Stability:</i>	Stable
<i>Hazardous polymerization:</i>	Will not occur
<i>Hazardous decomposition products:</i>	None
<i>Incompatible materials:</i>	Oxidizers and explosives

11. Toxicology and Health Hazards

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 or accidental inhalation overexposure to toner may result in respiratory tract irritation
- Intentional or accidental oral ingestion may cause an upset stomach

Chronic Health Hazards: Use of this product, as intended, does not result in inhalation of fugitive excessive dust. In an inhalation study with rats chronically exposed to a typical developer, a mild to moderate degree of lung fibrosis was observed in approximately 90% of rats in the high concentration exposure group (16mg/cubic meter), and a minimal to mid degree of fibrosis was noted in approximately 20% of the animal in the middle exposure group (4mg/cubic meter). But no pulmonary change was reported in the lowest exposure group (1mg/cubic meter), the most relevant level to potential human exposure.

Carcinogenicity: With excessive exposure, carbon black has been listed as a possible human carcinogen. However, as engineered within this toner cartridge, emissions to air of carbon black during normal printing use have not been found. IARC, the International Agency for Research on Cancer, has found printing toners to be not classifiable as human carcinogens.

<i>Toxicity Data:</i>	Oral LD50	Dermal LD50	Inhalant LC50	OSHA Regulated?
	> 5000mg/kg(Rats)	> 5000mg/kg(Rats)	4.1mg/L/4hr(Rats)	Not Established

12. Ecological Information

Acute Toxicity: 96hr LC 50: > 500 mg/L (practically non-toxic)
48hr EC 50 (Daphnia magna): > 100 mg/L (practically non-toxic)

13. Disposal Considerations

Used and unused cartridges are not a federal RCRA hazardous waste. Disposal should be in accordance with federal, state, and local requirements.

14. Transportation Information

Not regulated as a Hazardous Material by DOT, IMO, or IATA

15. Regulatory Considerations

<i>U.S. DOT Hazard Class Regulated?</i>	NO
<i>U.S. OSHA Inhalation Hazard?</i>	NO
<i>In U.S., NFPA/HMIS Hazard Rating:</i>	Health (1), Flammability (1), Instability/Reactivity (0), Other (0)

16. Other Information

This MSDS adheres to U.S. regulatory requirements and standards and may not meet the regulatory requirements in other locations.

This is a revised Material Safety Data Sheet which replaces all prior U.S. MSDS for this product.

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. EPSON does not warrant the completeness or accuracy of the information contained herein. It is subject to revision from time to time.