

Material Safety Data Sheet

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

1.1. Identification of the preparation: EPSON Ink Cartridge T6144

1.2. Use of the substance/preparation: Inkjet Printing

1.3. Company/undertaking identification

Manufacturer/Distributor: SEIKO EPSON CORPORATION

Address: 80 Harashinden, Hirooka,
Shiojiri-shi, Nagano-ken, 399-0785
JAPAN

TEL: +81-263-52-2552 **FAX:** +81-263-53-3702

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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 ink does not meet the criteria for dangerous classification according to EU Directive 1999/45/EC. Nevertheless, one of its components does meet the criteria for dangerous classification according to EU Directive 67/548/EEC.

Ink component is a yellow liquid 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: Ink contact with eye may be mildly irritating. See Section 11 for Toxicology.

Skin: Ink contact with skin may cause irritation, swelling or redness. See Section 11 for Toxicology.

Inhalation: Intentional exposure to ink vapors (mist) will cause respiratory irritation. See Section 11 for Toxicology.

Ingestion: May cause upset stomach.

3. Composition/Information on Ingredients

This is an aqueous ink formulation

Ink Composition	CAS No.	EEC No.	EU registration No.	% By Weight	EU Symbols	EU R-phrase	EU OELs	Remark
Colorants	Trade secret	Trade secret	Not available for the moment	1 - 5	None	None	None	None
Ethylene glycol monobutyl ether	111-76-2	203-905-0	Not available for the moment	< 1	X _n	R20/21/22 R36/38	See section 8	None
Proprietary organic materials	Trade secret	Trade secret	Not available for the moment	5 - 10	None	None	None	None
Triethanol amine	102-71-6	203-0498	Not available for the moment	< 1	None	None	None	None
Ethylene glycol	107-21-1	203-473-3	Not available for the moment	1 - 5	X _n	R22	See section 8	None
Glycerols	Trade secret	Trade secret	Not available for the moment	10 - 15	None	None	None	None
Water	7732-18-5	231-791-2	Exemption	balance	None	None	None	None

Please refer to the section 16, where the full text of each relevant R-phrase.

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 wearing again. 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:** Not Flammable
- 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

- 6.1. Personal precautions:** Eye or Skin protection required during clean-up. Use proper ventilation.
- 6.2. Environmental precautions:** Do not release to sewer, surface- or ground-water.
- 6.3. Methods for cleaning up:** If a spill occurs, use sponges to wipe-up ink, 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 and do not drink ink. 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. Make sure cartridge is dry before insertion into printer housing.
- 7.3. Specific use(s):** Not specified

8. Exposure Controls and Personal Protection

8.1. Exposure limit values:

1. Ethylene glycol (CAS No. 107-21-1)

EU: Ethylene glycol (CAS No. 107-21-1)

The threshold limit is: 52 mg/m³

The threshold limit is: 20 ppm

The STEL is: 104 mg/m³

The STEL is: 40 ppm

US: ACGIH Threshold Limit Values (2008)

Ethylene glycol (CAS No. 107-21-1), AEROSPL ONLY

The Ceiling Exposure Limit is: 100 mg/m³

US: OSHA Table Z-1-A (29 CFR 1910.1000)(Revoked June 30, 1993)

Ethylene glycol (CAS No. 107-21-1)

OSHA ceiling concentration is: 50 ppm

OSHA ceiling concentration is: 125 mg/m³

Australia: OELs

Ethylene glycol (CAS No. 107-21-1), VAPOUR

The Time Weighted Average is: 20 ppm.

The Time Weighted Average is: 52 mg/m³

The Short Term Exposure Limited is: 40 ppm

The Short Term Exposure Limited is: 104 mg/m³

2. Ethylene glycol monobutyl ether (CAS No. 111-76-2)

EU: 2-Butoxyethanol (EGBE)(CAS No.111-76-2)

The threshold limit is: 98 mg/m³

The threshold limit is: 20 ppm

The STEL is: 248 mg/m³

The STEL is: 50 ppm

US: ACGIH Threshold Limit Values (2008)

2-Butoxyethanol (CAS No.111-76-2)

The 8-Hour Exposure Limit (ELV-TWA) is: 20 ppm

US: OSHA Table Z-1 Limits for Air Contaminants (June 30, 1993)(29 CFR 1910.1000)(1971 PELs)

2-Butoxyethanol (EGBE)(CAS No.111-76-2)

OSHA Z-1 PEL is: 50 ppm

OSHA Z-1 PEL is: 240 mg/m³

OSHA Z-1 limit applies to skin: X

US: OSHA Table Z-1-A (29 CFR 1910.1000)(Revoked June 30, 1993)

2-Butoxyethanol (EGBE)(CAS No.111-76-2)

OSHA TWA is: 25 ppm

OSHA TWA is: 120 mg/m³

Australia: OELs

2-Butoxyethanol (EGBE)(CAS No.111-76-2), Skin designation

The Time Weighted Average is: 20 ppm.

The Time Weighted Average is: 96.9 mg/m³

The Short Term Exposure Limited is: 50 ppm

The Short Term Exposure Limited is: 242 mg/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 Ink Formulation

9.1. General information

Appearance: Yellow Liquid

Odor: None

9.2. Important health, safety and environmental information

pH: about 9.3 at 20 °C / 68 °F

Boiling point: No data available

Flash point: Not detected until 120°C/248°F (closed cup, ASTM D3278)

Flammability (solid, gas): None

Explosive properties: None

Oxidizing properties: None

Vapor pressure: No data available

Relative density: 1.060 at 20 °C / 68 °F

Solubility: No data available

Water solubility: Complete

Partition coefficient: n-octanol/water: No data available

Viscosity: Less than 5 mPa·s

Vapor density: Greater than 1 (air = 1)

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 No data available

10.1. Conditions to avoid: High and freezing temperatures

10.2. Materials to avoid: Oxidizers and explosives

10.3. Hazardous decomposition products: No data available

11. Toxicological Information

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

Acute Health Hazards:

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

Chronic Health Hazards: None known

Mutagenicity: Negative (by Ames Test)

Carcinogenicity: Not contain any substances listed in IARC Monographs (1,2A and 2B)

Toxicity Data: Oral LD₅₀: > 2500mg/kg (Rats)

Dermal LD₅₀: > 2000mg/kg (Rats)

Inhalant LC₅₀: No data available

Eye irritating: Minimal irritating (Rabbits, OECD 405)

Skin irritating: Mild irritating (Rabbits, OECD 404)

Skin sensitizing: Non-sensitizing (Guinea Pig, OECD 406)

12. Ecological Information

12.1. Ecotoxicity No data available on the adverse effects of this ink on the environment

12.2. Mobility No data available on the adverse effects of this ink on the environment

12.3. Persistence and degradability No data available on the adverse effects of this ink on the environment

12.4. Bioaccumulative potential No data available on the adverse effects of this ink 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

DOT, IMO, or IATA : Not hazardous classification

15. Regulatory Information

EU Information:

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

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

Symbols and indication according to 1999/45/EC:

This ink 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)
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Australia Information:

Statement of Hazardous Nature:	Not classified as hazardous according to criteria of NOHSC
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16. Other Information

<i>List of relevant R-phrases:</i> R22	Harmful if swallowed.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36/38	Irritating to eyes and skin.

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.