Material Safety Data Sheet

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

1.1. Identification of the preparation: EPSON Ink Cartridge T1434
1.2. Use of the substance/preparation: Inkjet Printing
1.3. Company/undertaking identification
   Manufacturer/Distributor: Epson Korea Co., Ltd.
   Address: 11F Milim Tower, 825-22 Yeoksam-dong, Gangnam-gu, Seoul, 135-934 Korea
   TEL: +82-2-558-4270  FAX: +82-2-558-4272
   e-mail: jylee@epson.co.kr
   Date Prepared: 26 November 2009
   Revision: B
1.4. Emergency telephone: +82-2-558-4270 (Mon-Fri, 9AM-6PM KST)

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.
   Skin: Ink contact with skin may cause irritation, swelling or redness.
   Inhalation: Intentional exposure to ink vapors (mist) will cause respiratory irritation.
   Ingestion: May cause upset stomach.

3. Composition/Information on Ingredients

   This is an aqueous ink formulation

<table>
<thead>
<tr>
<th>Ink Composition</th>
<th>CAS No.</th>
<th>EEC No.</th>
<th>EU registration No.</th>
<th>% By Weight</th>
<th>EU Symbols</th>
<th>EU R-phrase</th>
<th>EU OELs</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorants</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>Not available for the moment</td>
<td>1 - 5</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<tr>
<td>TEGBE</td>
<td>143-22-6</td>
<td>202-592-6</td>
<td>Not available for the moment</td>
<td>1 - 5</td>
<td>X \text{r}</td>
<td>R-41</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Proprietary organic materials</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>Not available for the moment</td>
<td>10 – 15</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<tr>
<td>Triethanol amine</td>
<td>102-71-6</td>
<td>203-049-8</td>
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<td>1 - 5</td>
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<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Glycerols</td>
<td>Trade secret</td>
<td>Trade secret</td>
<td>Not available for the moment</td>
<td>10 – 15</td>
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<td>None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>Exemption balance</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

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: Not established
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 9.0 at 20 °C / 68 °F
- **Boiling point:** No data available
- **Flash point:** Not detected until 100°C / 212 °F (Closed cup, ASTM D3278)
- **Flammability (solid, gas):** None
- **Explosive properties:** None
- **Oxidizing properties:** None
- **Vapor pressure:** No data available
- **Relative density:** 1.065 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 at 20°C / 68 °F
- **Vapor density:** No data available
- **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:** Not meet the criteria for classification according to EU Directive 1999/45/EC

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

**Toxicity Data:**

- **Oral LD$_{50}$:** Not meet the criteria for classification according to EU Directive 1999/45/EC
- **Dermal LD$_{50}$:** Not meet the criteria for classification according to EU Directive 1999/45/EC
- **Inhalant LC$_{50}$:** No data available

**Eye irritating:** Not meet the criteria for classification according to EU Directive 1999/45/EC

**Skin irritating:** Not meet the criteria for classification according to EU Directive 1999/45/EC

**Skin sensitizing:** Not meet the criteria for classification according to EU Directive 1999/45/EC

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)

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

16. Other Information
List of relevant R-phrases: R-41 Risk of serious damage of eyes.

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.