1. Chemical Product and Company Identification

Identification of the preparation
51645 Series

Use of the preparation
Inkjet printing

Manufacturer information
Hewlett-Packard Company
1000 NE Circle Boulevard
Corvallis, OR 97330-4239 US

Hewlett-Packard health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-503-494-7199

General information telephone number
HP Customer Care Line 1-800-474-6836
(Toll-free) 1-800-474-6836
(Direct) 1-208-323-2551

Date prepared
Jun 12, 2007

MSDS number
146834

2. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Component/substance</th>
<th>CAS number</th>
<th>% by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&gt; 70</td>
</tr>
<tr>
<td>2-pyrrolidone</td>
<td>616-45-5</td>
<td>&lt; 15</td>
</tr>
<tr>
<td>Carbon black</td>
<td>1333-86-4</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>Isopropyl Alcohol</td>
<td>67-63-0</td>
<td>&lt; 5</td>
</tr>
</tbody>
</table>

Composition comments
This ink supply contains an aqueous ink formulation. This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazard Communication Standard).

3. Hazards Identification

Emergency overview
Contact with skin and eyes may result in irritation.

Acute health effects
Any potential hazards are presumed to be due to exposure to the components.

Skin contact

2-pyrrolidone
Contact with skin may result in irritation.

Eye contact

2-pyrrolidone
Contact with eyes may result in irritation.

Isopropyl Alcohol
Contact with eyes may result in severe irritation.

Inhalation

2-pyrrolidone
Inhalation may result in respiratory irritation.

Isopropyl Alcohol
Inhalation may cause drowsiness or dizziness.
Ingestion

2-pyrrolidone
Ingestion may result in nausea, vomiting and diarrhea.

Potential health effects
Routes of exposure
Potential routes of overexposure to this product are skin and eye contact.

Inhalation of vapor and ingestion are not expected to be significant routes of exposure for this product under normal use conditions.

Complete toxicity data are not available for this specific formulation.

Chronic health effects
Carbon Black: Chronic inhalation studies performed with fine dust particles resulted in lung tumors in animals. The IARC classification was based upon these results. IARC also concluded "there is inadequate evidence in humans for the carcinogenicity of carbon black." Inhalation of fine dust particles is not expected to occur during normal conditions of use of this ink.

Carcinogenicity
Carbon black is classified by the IARC as a Group 2B carcinogen (the substance is possibly carcinogenic to humans).
None of the other ingredients in this preparation are classified as carcinogens according to ACGIH, EU, IARC, MAK, NTP or OSHA.

Other information

4. First Aid Measures
First aid procedures
Skin
Wash affected areas thoroughly with mild soap and water. If irritation persists get medical attention.

Eye
Do not rub eyes. Immediately flush with large amounts of clean, warm water (low pressure) for at least 15 minutes or until particles are removed. If irritation persists get medical attention.

Inhalation
Move to fresh air. If symptoms persist, get medical attention.

Ingestion
If ingestion of a large amount does occur, seek medical attention.

5. Fire Fighting Measures
Flash point and method
131 - 136 °F (55 - 57.8 °C); Pensky-Martens Closed Cup; No ignition, sustained combustion or flashing detected using the Sustained Combustibility Test (method in US 49CFR173, Appendix H).

Hazardous combustion products
Refer to section 10. Carbon monoxide and carbon dioxide.

Extinguishing media
CO2, water, dry chemical, or foam Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media
None known. None known.

Unusual fire and explosion hazard
None known. Flammable Liquid and Will burn if involved in a fire and Vaporizes easily at normal temperatures and Vapors may travel to a source of ignition and flash back.

Special firefighting procedures
None established.
6. Accidental Release Measures

**Personal precautions**
Wear appropriate personal protective equipment. Wear appropriate personal protective equipment and Ensure adequate ventilation and Remove all sources of ignition.

**Environmental precautions**
Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Do not let product enter drains and Do not flush into surface water or sanitary sewer system.

**Procedures if material is released or spilled**
Soak up with inert absorbent material. Slowly vacuum or sweep the material into a bag or other sealed container. Dispose of in compliance with federal, state, and local regulations. See also section 13 Disposal considerations. Soak up with inert absorbent material, Clean remainder with a damp cloth or vacuum cleaner, Dispose of in compliance with federal, state, and local regulations, See also section 13 Disposal considerations.

7. Handling and Storage

**Handling**
Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition and Avoid contact with skin and eyes Use this product with adequate ventilation.

**Storage**
Keep out of the reach of children. Keep away from excessive heat or cold. Keep away from excessive heat, sparks, and open flames.

8. Exposure Controls/Personal Protection

**Exposure limit values**
Exposure limits have not been established for this product.

**ACGIH - Threshold Limits Values - Time Weighted Averages (TLV-TWA)**
- Isopropyl Alcohol: 67-63-0, 200 ppm TWA
- Carbon black: 1333-86-4, 3.5 mg/m3 TWA

**OSHA - Final PELs - Time Weighted Averages (TWAs)**
- Carbon black: 1333-86-4, 3.5 mg/m3 TWA
- Isopropyl Alcohol: 67-63-0, 400 ppm TWA; 980 mg/m3 TWA

**Personal protective equipment**

**General**
Use personal protective equipment to minimize exposure to skin and eye. Use personal protective equipment to minimize exposure to skin and eye.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Handle in accordance with good industrial hygiene and safety practice.

**Exposure guidelines**
Use in a well ventilated area. Use in a well ventilated area.

9. Physical & Chemical Properties

**pH**
7.8 - 8.4

**Vapor pressure**
Not determined

**Boiling point**
> 200 °F (> 93.3 °C)

**Solubility**
Soluble in water

**Specific gravity**
1 - 1.2 g/mL

**VOC content**
< 3 %

**Flash point**
131 - 136 °F (55 - 57.8 °C)

**Viscosity**
> 2 cp

**Vapor density**
> 1 (air = 1.0)

**Evaporation rate**
Not determined

**Oxidizing properties**
Not determined No information available.
10. Chemical Stability & Reactivity Information

**Stability**
Stable under recommended storage conditions. Stable under recommended storage conditions.

**Hazardous polymerization**
Will not occur. Will not occur.

**Hazardous decomposition products**
Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Carbon monoxide and carbon dioxide.

**Incompatibility**
Incompatible with strong bases and oxidizing agents. Incompatible with strong acids and bases.

11. Toxicological Information

Complete toxicity data are not available for this specific formulation. Refer to Section 3 for potential health effects and Section 4 for first aid measures. Complete toxicity data are not available for this specific formulation. Refer to Section 3 for potential health effects and Section 4 for first aid measures.

**Carcinogenicity**

OSHA - Hazard Communication Carcinogens
Carbon black 1333-86-4 Present

Symptoms and target organs

NIOSH - Pocket Guide - Target Organs
Isopropyl Alcohol 67-63-0 eyes, skin, respiratory system

NIOSH - Pocket Guide - Target Organs
Carbon black 1333-86-4 respiratory system, eyes (lymphatic cancer in presence of PAHs)

12. ECOLOGICAL INFORMATION

**Aquatic toxicity**
LC50/96h/Fathead minnows => 750 mg/L LC50/96h/Fathead minnows = 9460 mg/L.
EC50/48h/daphnia =13299 mg/L.
EC50/72h/algae =/> 1000 mg/L.

13. Disposal Considerations

Disposal instructions
Dispose of in compliance with federal, state, and local regulations.
HP’s Planet Partners (trademark) supplies recycling program enables simple, convenient recycling of HP original inkjet and LaserJet supplies. For more information and to determine if this service is available in your location, please visit http://www.hp.com/recycle. Dispose of in compliance with federal, state, and local regulations.

14. Transportation Information

**General**
Not a regulated article under United States DOT, IATA, ADR, IMDG, or RID.

**IATA**

- **Proper shipping name**
  Not applicable

- **Hazard class**
  Not applicable

- **Packaging exceptions**
  None

- **Identification number (UN)**
  None

- **Packing group**
  N/A
15. Regulatory Information

**International regulations**
All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China. All chemical substances in this HP product have been notified or are exempt from notification under chemical substances notification laws in the following countries: US (TSCA), EU (EINECS/ELINCS), Switzerland, Canada (DSL/NDSL), Australia, Japan, Philippines, South Korea, New Zealand, and China.

**US federal regulations**
US TSCA 12(b): Contains tetrahydrofuran (CASRN 109-99-9), subject to export notification requirements.

**HMIS ratings**
- Health: 1
- Flammability: 2
- Physical hazard: 0

**NFPA ratings**
- Health: 1
- Flammability: 2
- Instability: 0

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**
- Section 302 extremely hazardous substance: No
- Section 311 hazardous chemical: No

**Hazard categories**
- Immediate Hazard: No
- Delayed Hazard: No
- Fire Hazard: No
- Pressure Hazard: No
- Reactivity Hazard: No

16. Other Information

**Other information**
This MSDS was prepared in accordance with USA OSHA Hazard Communications regulation (29 CFR 1910.1200).

**Issue date**
Jun 12 2007 6:56AM

**Revision**
5

**Replaces sheet dated**
Jan 26 2007 10:57PM

**Disclaimer**
This Safety Data Sheet document is provided without charge to customers of Hewlett-Packard Company. Data is the most current known to Hewlett-Packard Company at the time of preparation of this document and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application. This document was prepared to the requirements of the jurisdiction specified in Section 1 above and may not meet regulatory requirements in other countries.

**MSDS sections updated**
Chemical Product and Company Identification: Alternate Trade Names - SKU Numbers
Composition / Information on Ingredients: Ingredients
3. Hazards Identification: Chronic health effects
3. Hazards Identification: Carcinogenicity
15. Regulatory Information: Canadian regulations
Explanation of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response Compensation and Liability Act</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>COC</td>
<td>Cleveland Open Cup</td>
</tr>
<tr>
<td>DOT</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>EPCRA</td>
<td>Emergency Planning and Community Right-to-Know Act (aka SARA)</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety and Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
</tr>
<tr>
<td>REC</td>
<td>Recommended</td>
</tr>
<tr>
<td>REL</td>
<td>Recommended Exposure Limit</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments and Reauthorization Act of 1986</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-Term Exposure Limit</td>
</tr>
<tr>
<td>TCLP</td>
<td>Toxicity Characteristics Leaching Procedure</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substances Control Act</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</td>
</tr>
</tbody>
</table>