SAFETY DATA SHEET

1. Identification

Product identifier: C5090Series

Other means of identification: Not available.

Recommended use: Inkjet printing

Recommended restrictions: None known.

Company identification: HP Inc.

1501 Page Mill Road
Palo Alto, CA 94304-1112
United States
Telephone 650-857-5020

HP Inc. health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-760-710-0048

HP Inc. Customer Care Line
(Toll-free within the US) 1-800-474-6836
(Direct) 1-208-323-2551

Email: hpcustomer.inquiries@hp.com

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards: Specific target organ toxicity, repeated exposure (oral) Category 2 (kidney)

Environmental hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements:

Signal word: Warning

Hazard statement: May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary statement prevention:
P270 - Do not eat, drink or smoke when using this product.

Response:
P314 - Get medical attention/advice if you feel unwell.

Storage: Not available.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): 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.

Supplemental information: None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>70-80</td>
<td></td>
</tr>
<tr>
<td>2-pyrrolidone</td>
<td>616-45-5</td>
<td>&lt;7.5</td>
<td></td>
</tr>
<tr>
<td>Alkyldiol</td>
<td>Proprietary</td>
<td>&lt;7.5</td>
<td></td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>111-46-6</td>
<td>&lt;5</td>
<td></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).

### 4. First-aid measures

<table>
<thead>
<tr>
<th>First-aid measures</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td>Move to fresh air. If symptoms persist, get medical attention.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>Wash affected areas thoroughly with mild soap and water. If irritation persists get medical attention.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>If ingestion of a large amount does occur, seek medical attention.</td>
</tr>
</tbody>
</table>

**Most important symptoms/effects, acute and delayed**
- Not available.

### 5. Fire-fighting measures

<table>
<thead>
<tr>
<th>Fire-fighting measures</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suitable extinguishing media</strong></td>
<td>CO2, water, dry chemical, or foam</td>
</tr>
<tr>
<td><strong>Unsuitable extinguishing media</strong></td>
<td>None known.</td>
</tr>
<tr>
<td><strong>Specific hazards arising from the chemical</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Special protective equipment and precautions for firefighters</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Specific methods</strong></td>
<td>None established.</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

<table>
<thead>
<tr>
<th>Accidental release measures</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal precautions, protective equipment and emergency procedures</strong></td>
<td>Wear appropriate personal protective equipment.</td>
</tr>
<tr>
<td><strong>Methods and materials for containment and cleaning up</strong></td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Environmental precautions</strong></td>
<td>Do not let product enter drains. Do not flush into surface water or sanitary sewer system.</td>
</tr>
</tbody>
</table>

### 7. Handling and storage

<table>
<thead>
<tr>
<th>Handling and storage</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Precautions for safe handling</strong></td>
<td>Avoid contact with skin, eyes and clothing.</td>
</tr>
<tr>
<td><strong>Conditions for safe storage, including any incompatibilities</strong></td>
<td>Keep out of the reach of children. Keep away from excessive heat or cold.</td>
</tr>
</tbody>
</table>

### 8. Exposure controls/personal protection

#### Occupational exposure limits

- **US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**
  - **Components**
    - Glycerol (CAS 56-81-5)
      - **Type**: PEL
      - **Value**: 5 mg/m³, 15 mg/m³
        - **Form**: Respirable fraction. Total dust.
    - **US. Workplace Environmental Exposure Level (WEEL) Guides Components**
      - **Components**
        - Diethylene glycol (CAS 111-46-6)
          - **Type**: TWA
          - **Value**: 10 mg/m³

<table>
<thead>
<tr>
<th>Biological limit values</th>
<th>No biological exposure limits noted for the ingredient(s).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure guidelines</td>
<td>Exposure limits have not been established for this product.</td>
</tr>
</tbody>
</table>
Appropriate engineering controls
Use in a well ventilated area.

Individual protection measures, such as personal protective equipment
Eye/face protection Not required under intended use.
Skin protection
Hand protection Not available.
Other Protected gloves not required under intended use.
Respiratory protection For use other than intended use (such as in the event of a large spill), goggles and respirators may be required.
Thermal hazards Not available.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance
Physical state Not available.
Color Light Cyan
Odor Not available.
Odor threshold Not available.

pH 9.2
Melting point/freezing point Not available.
Initial boiling point and boiling range Not determined

Flash point > 200.0 °F (> 93.3 °C) Pensky-Martens Closed Cup
Evaporation rate Not determined

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits
Flammability limit - lower (%) Not determined
Flammability limit - upper (%) Not available.
Explosive limit - lower (%) Not available.
Explosive limit - upper (%) Not available.

Flash point > 200.0 °F (> 93.3 °C) Pensky-Martens Closed Cup
Evaporation rate Not determined

Upper/lower flammability or explosive limits
Flammability limit - lower (%) Not determined
Flammability limit - upper (%) Not available.
Explosive limit - lower (%) Not available.
Explosive limit - upper (%) Not available.

Vapor pressure Not determined

Solubility(ies)
Solubility (water) Soluble in water
Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not determined
Decomposition temperature Not available.

VOC (Weight %) < 190 g/l

10. Stability and reactivity
Reactivity Not available.
Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions Will not occur.
Conditions to avoid Not available.

Incompatible materials Incompatible with strong bases and oxidizing agents.
Hazardous decomposition products
Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
hydrogen fluoride
fluorinated hydrocarbons
ketones
aldehydes

11. Toxicological information

Symptoms related to the physical, chemical and toxicological characteristics
Not available.

Information on toxicological effects

Acute toxicity
Based on available data, the classification criteria are not met.

Skin corrosion/irritation
Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation
Based on available data, the classification criteria are not met.

Respiratory or skin sensitization

Respiratory sensitization
Based on available data, the classification criteria are not met.

Skin sensitization
Based on available data, the classification criteria are not met.

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Carcinogenicity
Based on available data, the classification criteria are not met.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Specific target organ toxicity

- single exposure
Based on available data, the classification criteria are not met.

- repeated exposure
May cause damage to organs (Kidney) through prolonged or repeated exposure.

Aspiration hazard
Based on available data, the classification criteria are not met.

Further information
Complete toxicity data are not available for this specific formulation

Components

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
</table>

2-pyrroldine (CAS 616-45-5)

**Acute**

**Oral**

LD50

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea pig</td>
<td>6500 mg/kg</td>
</tr>
<tr>
<td>Rat</td>
<td>6500 mg/kg</td>
</tr>
</tbody>
</table>

Diethylene glycol (CAS 111-46-6)

**Acute**

**Dermal**

LD50

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbit</td>
<td>11890 mg/kg</td>
</tr>
</tbody>
</table>

**Oral**

LD50

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat</td>
<td>3300 mg/kg</td>
</tr>
<tr>
<td>Dog</td>
<td>9000 mg/kg</td>
</tr>
<tr>
<td>Guinea pig</td>
<td>8700 mg/kg</td>
</tr>
<tr>
<td>Mouse</td>
<td>13.3 g/kg</td>
</tr>
<tr>
<td>Rabbit</td>
<td>26.9 g/kg</td>
</tr>
<tr>
<td>Rat</td>
<td>12565 mg/kg</td>
</tr>
</tbody>
</table>

**Other**

LD50

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>9.6 g/kg</td>
</tr>
<tr>
<td>Rabbit</td>
<td>2000 mg/kg</td>
</tr>
<tr>
<td>Rat</td>
<td>7700 mg/kg</td>
</tr>
<tr>
<td></td>
<td>7.7 g/kg</td>
</tr>
</tbody>
</table>
12. Ecological information

Ecotoxicity

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5090Series</td>
<td>Fish</td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fathead minnow (Pimephales promelas) &gt; 750 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Components

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone (CAS 616-45-5)</td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
</tr>
<tr>
<td>Diethylene glycol (CAS 111-46-6)</td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
</tr>
<tr>
<td>Glycerol (CAS 56-81-5)</td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
</tr>
</tbody>
</table>

Persistence and degradability
Not available.

Bioaccumulative potential
Not available.

Partition coefficient n-octanol / water (log Kow)

| 2-pyrrolidone | -0.85 |
| Glycerol      | -1.76 |

Mobility in soil
Not available.

Other adverse effects
Not available.

13. Disposal considerations

Disposal instructions
Do not allow this material to drain into sewers/water supplies.
Dispose of waste material according to Local, State, Federal, and Provincial Environmental 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.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

ADR
Not regulated as dangerous goods.

Further information
Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.

15. Regulatory information

US federal regulations
US TSCA 12(b): Does not contain listed chemicals.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.
SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312
Hazardous chemical
No

Other federal regulations

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

US. Massachusetts RTK - Substance List
2-pyrrolidone (CAS 616-45-5)
Glycerol (CAS 56-81-5)

US. New Jersey Worker and Community Right-to-Know Act
Glycerol (CAS 56-81-5)

US. Pennsylvania Worker and Community Right-to-Know Law
2-pyrrolidone (CAS 616-45-5)
Diethylene glycol (CAS 111-46-6)
Glycerol (CAS 56-81-5)

US. Rhode Island RTK
Not regulated.

US. California Proposition 65
Not Listed.

Other information
VOC content (less water, less exempt compounds) = < 918 g/L (U.S. requirement, not for emissions) VOC data based on formulation (Organic compounds minus solids)

Regulatory information
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.

16. Other information, including date of preparation or last revision

Issue date
09-Apr-2015

Revision date
02-Aug-2016

Version #
05

Disclaimer
This Safety Data Sheet document is provided without charge to customers of HP. Data is the most current known to HP 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.

Manufacturer information
HP Inc.
1501 Page Mill Road
Palo Alto, CA 94304-1112 US
Direct 1-650-857-5020

Material name: C5090Series

9391 Version #: 05 Revision date: 02-Aug-2016 Issue date: 09-Apr-2015
**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>