SAFETY DATA SHEET

1. Identification

Product identifier: CB334Series
Other means of identification: Not available.
Recommended use: Inkjet printing
Recommended restrictions: None known.
Company identification: HP
1501 Page Mill Road
Palo Alto, CA 94304-1112
United States
Telephone 650-857-5020

HP health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-760-710-0048
HP 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: Not classified.
Environmental hazards: Not classified.
OSHA defined hazards: Not classified.

Label elements
- Hazard symbol: None.
- Signal word: None.
- Hazard statement: Not available.

Precautionary statement
- Prevention: Not available.
- Response: Not available.
- Storage: Not available.
- Disposal: Not available.

Hazard(s) not otherwise classified (HNOC)
Complete toxicity data are not available for this specific formulation.

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.

Carbon black is classified by the IARC as a Group 2B carcinogen (the substance is possibly carcinogenic to humans). Carbon black in this preparation, due to its bound form, does not present this carcinogenic risk. None of the other ingredients in this preparation are classified as carcinogens according to ACGIH, EU, IARC, MAK, NTP or OSHA.

Supplemental information: This product is not classified as hazardous according to OSHA CFR 1910.1200 (HazCom 2012).

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></td>
<td>7732-18-5</td>
<td>75-85</td>
</tr>
<tr>
<td>2-pyrrolidone</td>
<td></td>
<td>616-45-5</td>
<td>&lt;15</td>
</tr>
</tbody>
</table>
4. First-aid measures

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

**Skin contact**
Wash affected areas thoroughly with mild soap and water. If irritation persists get medical attention.

**Eye contact**
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.

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

Most important symptoms/effects, acute and delayed
Contact with skin and eyes may result in irritation.

5. Fire-fighting measures

**Notes**
No ignition, sustained combustion or flashing detected using the Sustained Combustibility Test (method in US 49CFR173, Appendix H).

**Suitable extinguishing media**
CO2, water, dry chemical, or foam

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
Not applicable.

**Special protective equipment and precautions for firefighters**
None established.

**Specific methods**
None established.

**General fire hazards**
Contact with skin and eyes may result in irritation.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Wear appropriate personal protective equipment.

**Methods and materials for containment and cleaning up**
Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. Slowly vacuum or sweep the material into a bag or other sealed container.

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

7. Handling and storage

**Precautions for safe handling**
Avoid contact with skin, eyes and clothing.

**Conditions for safe storage, including any incompatibilities**
Keep out of the reach of children. Keep away from excessive heat or cold.

8. Exposure controls/personal protection

**Occupational exposure limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon black (CAS 1333-86-4)</td>
<td>PEL</td>
<td>3.5 mg/m3</td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>PEL</td>
<td>980 mg/m3</td>
</tr>
</tbody>
</table>
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>400 ppm</td>
</tr>
</tbody>
</table>

**US. ACGIH Threshold Limit Values**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon black (CAS 1333-86-4)</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Inhalable fraction.</td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>STEL</td>
<td>400 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td></td>
</tr>
</tbody>
</table>

**US. NIOSH: Pocket Guide to Chemical Hazards**

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon black (CAS 1333-86-4)</td>
<td>0.1 mg/m³</td>
<td>TWA</td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>1225 mg/m³</td>
<td>STEL</td>
</tr>
<tr>
<td></td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>980 mg/m³</td>
<td>TWA</td>
</tr>
<tr>
<td></td>
<td>400 ppm</td>
<td></td>
</tr>
</tbody>
</table>

**Biological limit values**

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td>40 mg/l</td>
<td>Acetone</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

**Exposure guidelines**

Exposure limits have not been established for this product.

**Appropriate engineering controls**

Use in a well ventilated area.

**Individual protection measures, such as personal protective equipment**

- **Eye/face protection**: Not available.
- **Skin protection**
  - **Hand protection**: Not available.
  - **Other**: Not available.
- **Respiratory protection**: Not available.
- **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**: Liquid.
- **Color**: Black.
- **Odor**: Not available.
- **Odor threshold**: Not available.
- **pH**: 7.8 - 8.4
- **Melting point/freezing point**: Not available.
- **Initial boiling point and boiling range**: 200 °F (93.33 °C)
- **Flash point**: 131.0 - 136.0 °F (55.0 - 57.8 °C)
- **Evaporation rate**: Not determined
- **Flammability (solid, gas)**: Not available.
Upper/lower flammability or explosive limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Vapor pressure

- Not determined

Solubility(ies)

- Solubility (water): Soluble in water

Partition coefficient (n-octanol/water)

- Not determined

Auto-ignition temperature

- Not available.

Decomposition temperature

- Not available.

Viscosity

- > 2 cp

Other information

- Specific gravity: 1 - 1.2
- For other VOC regulatory data/information see Section 15.
- VOC (Weight %): < 116.6 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.

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.

Carbon black is classified as a carcinogen by the IARC (possibly carcinogenic to humans, Group 2B) and by the State of California under Proposition 65. In their evaluations of carbon black, both organizations indicate that exposure to carbon black, per se, does not occur when it remains bound within a product matrix, specifically, rubber, ink, or paint. Carbon black is present only in a bound form in this preparation.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon black (CAS 1333-86-4) 2B Possibly carcinogenic to humans.

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.

Specific target organ toxicity - repeated exposure  
Based on available data, the classification criteria are not met.

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

Further information  
Complete toxicity data are not available for this specific formulation
Refer to Section 2 for potential health effects and Section 4 for first aid measures.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone (CAS 616-45-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Guinea pig</td>
<td>6500 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Rat</td>
<td>6500 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Carbon black (CAS 1333-86-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Rat</td>
<td>&gt; 8000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Rabbit</td>
<td>12800 mg/kg</td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Dog</td>
<td>4797 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Mouse</td>
<td>3600 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Rabbit</td>
<td>5.03 g/kg</td>
<td></td>
</tr>
<tr>
<td>Rat</td>
<td>4.7 g/kg</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 Mouse</td>
<td>1509 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Rat</td>
<td>1099 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. Ecological information

Aquatic toxicity  
Not expected to be harmful to aquatic organisms.

Ecotoxicity  

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB334Series (CAS Mixture)</td>
<td></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>
<tr>
<td>Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-pyrrolidone (CAS 616-45-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia pulex) 13.21 mg/l, 48 hours</td>
</tr>
<tr>
<td>Isopropyl alcohol (CAS 67-63-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Bluegill (Lepomis macrochirus) &gt; 1400 mg/l, 96 hours</td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Algae &gt; 1000 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia 13299 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fathead minnow (Pimephales promelas) 9460 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability  
No data is available on the degradability of this product.
Bioaccumulative potential  Not available.

Partition coefficient n-octanol / water (log Kow)
- 2-pyrrolidone -0.85
- Isopropyl alcohol 0.05

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.

Contaminated packaging  No special precautions.

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.

No ignition, sustained combustion, or flashing detected, using the Sustained Combustibility Test prescribed in the UN Manual of Tests and Criteria, Part III subsection 32.5.2. Refer to Dangerous Goods Regulations Section 3.3.1.3.

No ignition, sustained combustion or flashing detected using the sustained combustibility test (method in US CFR173, Appendix H).

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 - No
- 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)
- Carbon black (CAS 1333-86-4)
- Isopropyl alcohol (CAS 67-63-0)

US. New Jersey Worker and Community Right-to-Know Act
- Carbon black (CAS 1333-86-4)
- Isopropyl alcohol (CAS 67-63-0)

US. Pennsylvania Worker and Community Right-to-Know Law
- 2-pyrrolidone (CAS 616-45-5)
- Carbon black (CAS 1333-86-4)
- Isopropyl alcohol (CAS 67-63-0)

US. Rhode Island RTK
- Isopropyl alcohol (CAS 67-63-0)

US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
- CARBON BLACK (AIRBORNE, UNBOUND PARTICLES OF RESPIRABLE SIZE \[<= 10 MICROMETERS\]) (CAS 1333-86-4)
  Listed: February 21, 2003

Other information

VOC content (less water, less exempt compounds) = <592.5 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 14-Apr-2015
Revision date 23-Aug-2015
Version # 03

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
1501 Page Mill Road
Palo Alto, CA 94304-1112 US
Direct 1-650-857-5020
### Explanation of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</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>