



MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Material name C1845A
Use of the preparation Inkjet printing
Version # 05
Revision date 26-Mar-2008
CAS # Mixture
Product use Inkjet printing
Manufacturer information Hewlett-Packard Company
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Corvallis, OR 97330-4239 US

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Date prepared Mar 26, 2008
MSDS number 146836

2. Hazards Identification

Emergency overview Contact with skin and eyes may result in irritation.
Isopropyl Alcohol
Contact with skin and eyes may result in irritation. Inhalation may cause drowsiness or dizziness.

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.



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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

Isopropyl Alcohol

Potential routes of exposure under normal use conditions are skin, eye contact and inhalation.

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

Isopropyl Alcohol

This product is classified for health and physicochemical effects according to EU Directive 1999/45/EC with R11, R36 and R67.

3. Composition / Information on Ingredients

| Component/substance | CAS number | % by weight |
|---------------------|------------|-------------|
| Water | 7732-18-5 | > 70 |
| 2-pyrrolidone | 616-45-5 | < 15 |
| Carbon black | 1333-86-4 | < 5 |
| Isopropyl Alcohol | 67-63-0 | < 5 |

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

First aid procedures

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. 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.

Skin contact

Wash affected areas thoroughly with mild soap and water. If irritation persists get medical attention. Wash affected areas thoroughly with mild soap and water and Get medical attention if irritation develops or persists.

Inhalation

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

Ingestion

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



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|---|--|
| Hazardous combustion products | Refer to section 10. Carbon monoxide and carbon dioxide. |
| Flammable properties | 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. |
| Extinguishing media | |
| Suitable extinguishing media | CO ₂ , water, dry chemical, or foam Dry chemical, CO ₂ , 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. |
| Protection of firefighters | |
| Specific hazards arising from the chemical | None known.. |
| 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. |
| Other information | 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 limits

ACGIH

| Components | CAS # | TWA | STEL | Ceiling |
|-------------------|-----------|-----------------------|-----------------|-----------------|
| Carbon black | 1333-86-4 | 3.5 mg/m ³ | Not established | Not established |
| Isopropyl Alcohol | 67-63-0 | 200 ppm | 400 ppm | Not established |

OSHA

| Components | CAS # | TWA | STEL | Ceiling |
|-------------------|-----------|-----------------------|-----------------|-----------------|
| Carbon black | 1333-86-4 | 3.5 mg/m ³ | Not established | Not established |
| Isopropyl Alcohol | 67-63-0 | 400 ppm | Not established | Not established |



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Exposure guidelines 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

ACGIH - Threshold Limits Values - Time Weighted Averages (TLV-TWA)

Carbon black 1333-86-4 3.5 mg/m³ TWA

U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

Carbon black 1333-86-4 3.5 mg/m³ TWA

U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)

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.

Eye / face protection Not required under intended use.

Skin protection 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.

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

9. Physical & Chemical Properties

| | |
|---|---|
| Color | Black |
| Odor threshold | no appreciable odor |
| Physical state | Liquid. |
| pH | 7.8 - 8.4 |
| Melting point | Not available |
| Freezing point | Not available |
| Boiling point | > 200 °F (> 93.3 °C) |
| Flash point | 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). |
| Evaporation rate | Not determined |
| Flammability | Not available. |
| Flammability limits in air, upper, % by volume | Not available |
| Flammability limits in air, lower, % by volume | Not available |
| Vapor pressure | Not determined |
| Vapor density | > 1 (air = 1.0) |
| Specific gravity | 1 - 1.2 g/mL |
| Relative density | Not available |
| Solubility in water | Soluble in water |
| Partition coefficient (n-octanol/water) | Not determined |
| Auto-ignition temperature | Not available |



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| | |
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| Decomposition temperature | Not available |
| VOC | < 3 % |
| Viscosity | > 2 cp |
| Bulk density | 1 - 1.2 gm/ml |

10. Chemical Stability & Reactivity Information

| | |
|---|---|
| Chemical stability | Stable under recommended storage conditions. Stable under recommended storage conditions. |
| Incompatible materials | Incompatible with strong bases and oxidizing agents. Incompatible with strong acids and bases. |
| 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. |
| Possibility of hazardous reactions | Will not occur. Will not occur. |

11. Toxicological Information

Carcinogenicity

| | | |
|--|-----------|---------|
| U.S. - 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. |
| Persistence and degradability | Not available |
| Partition coefficient | Not determined |

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

Department of Transportation (DOT) Requirements

Not regulated as hazardous goods.



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IATA

| | |
|-----------------------------|----------------|
| Proper shipping name | Not applicable |
| Hazard class | Not applicable |
| UN number | None |
| Packing group | N/A |
| Packaging exceptions | None |

15. Regulatory Information

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

U.S. - CERCLA/SARA - Section 313 - Emission Reporting
Isopropyl Alcohol 67-63-0 1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)

CERCLA (Superfund) reportable quantity

None

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

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.

State regulations

U.S. - California - Proposition 65 - Carcinogens List
Carbon black 1333-86-4 carcinogen, initial date 2/21/03 (airborne, unbound particles of respirable size)

U.S. - Pennsylvania - RTK (Right to Know) List
Isopropyl Alcohol 67-63-0 Environmental hazard

U.S. - Pennsylvania - RTK (Right to Know) List
Carbon black 1333-86-4 Present

U.S. - New Jersey - Right to Know Hazardous Substance List
Carbon black 1333-86-4 sn 0342

U.S. - New Jersey - Right to Know Hazardous Substance List
Isopropyl Alcohol 67-63-0 sn 1076; sn 2381 (strong-acid process manufacture)

16. Other Information

HMIS® ratings Health: 1
Flammability: 2
Physical hazard: 0



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| | |
|-------------------------------------|---|
| NFPA ratings | Health: 1 Flammability: 2 Instability: 0 |
| Issue date | Mar 26 2008 1:02PM |
| Revision | 5 |
| Replaces sheet dated | Dec 15 2007 4:19PM |
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| MSDS sections updated | 3. Hazards Identification: Chronic health effects 3. Hazards Identification: Carcinogenicity 8. Exposure Controls/Personal Protection: Respiratory 15. Regulatory Information: Canadian regulations |
| Explanation of abbreviations | |
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS | Chemical Abstracts Service |
| CERCLA | Comprehensive Environmental Response Compensation and Liability Act |
| CFR | Code of Federal Regulations |
| COC | Cleveland Open Cup |
| DOT | Department of Transportation |
| EPCRA | Emergency Planning and Community Right-to-Know Act (aka SARA) |
| IARC | International Agency for Research on Cancer |
| NIOSH | National Institute for Occupational Safety and Health |
| NTP | National Toxicology Program |
| OSHA | Occupational Safety and Health Administration |
| PEL | Permissible Exposure Limit |
| RCRA | Resource Conservation and Recovery Act |
| REC | Recommended |
| REL | Recommended Exposure Limit |
| SARA | Superfund Amendments and Reauthorization Act of 1986 |
| STEL | Short-Term Exposure Limit |
| TCLP | Toxicity Characteristics Leaching Procedure |
| TLV | Threshold Limit Value |
| TSCA | Toxic Substances Control Act |
| VOC | Volatile Organic Compounds |