MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Identification of the preparation C9351 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 146849

2. 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).

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

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. 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. 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).

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
ACGIH - Threshold Limits Values - Time Weighted Averages (TLV-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
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.

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.

Color	Black

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

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

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Identification of the preparation C9352 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 Jan 24, 2007

MSDS number 147340

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component/Substance	CAS Number	% By Weight
Cyan ink		
Water	7732-18-5	> 60
1,5-pentanediol	111-29-5	< 10
Ethyl alkyldiol	Proprietary	< 7.5
2-pyrrolidone	616-45-5	< 7.5
Metal nitrate # 2	Proprietary	< 7.5
Alkyldiol ethoxylate	Proprietary	< 2.5
Substituted phthalocyanine salt # 2	Proprietary	< 2.5
Ammonium nitrate	6484-52-2	< 2.5
Magenta ink		
Water	7732-18-5	> 60
1,5-pentanediol	111-29-5	< 10
Ethyl alkyldiol	Proprietary	< 7.5
2-pyrrolidone	616-45-5	< 7.5
Metal nitrate # 2	Proprietary	< 7.5
Alkyldiol ethoxylate	Proprietary	< 2.5
Amino alkyldiol	Proprietary	< 2.5
Ammonium nitrate	6484-52-2	< 2.5
Yellow ink		
Water	7732-18-5	> 60
1,5-pentanediol	111-29-5	< 10
Ethyl alkyldiol	Proprietary	< 7.5
2-pyrrolidone	616-45-5	< 7.5
Metal nitrate # 2	Proprietary	< 7.5
Alkyldiol ethoxylate	Proprietary	< 2.5
Ammonium nitrate	6484-52-2	< 2.5

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).

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

1,5-pentanediol
Contact with skin may result in irritation.

2-pyrrolidone
Contact with skin may result in irritation.

Alkyldiol ethoxylate
Contact with skin may result in severe irritation.

Amino alkyldiol
Contact with skin may result in irritation.

Ammonium nitrate
Contact with skin may result in irritation.

Ethyl alkyldiol
Contact with skin may result in mild irritation.

Metal nitrate # 2
Contact with skin may result in irritation.

Eye contact

1,5-pentanediol
Contact with eyes may result in irritation.

2-pyrrolidone
Contact with eyes may result in irritation.

Alkyldiol ethoxylate
Contact can cause moderate to severe irritation and possible injury to the eyes.

Amino alkyldiol
Contact with eyes may result in irritation.

Ammonium nitrate
Contact with eyes may result in irritation.

Ethyl alkyldiol
Contact with eyes may result in mild irritation.

Metal nitrate # 2
Contact with eyes may result in irritation.

Inhalation

2-pyrrolidone
Inhalation may result in respiratory irritation.

Amino alkyldiol
Inhalation may result in respiratory irritation.

Ammonium nitrate
Inhalation may result in respiratory irritation.

Metal nitrate # 2
Inhalation may result in respiratory irritation.

Ingestion

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

Alkyldiol ethoxylate
Ingestion may cause irritation of mouth, throat, nausea, vomiting and diarrhea.

Ammonium nitrate
Contains nitrate salts, may cause methemoglobinemia.

Metal nitrate # 2
Contains nitrate salts, may cause methemoglobinemia.

Substituted phthalocyanine salt # 2
Harmful if swallowed.

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	Cyan ink: Substituted phthalocyanine salt: Prolonged ingestion exposure may cause serious damage to health.
Carcinogenicity	None of the components present in this formulation at concentrations equal to or greater than 0.1% are listed by EU, MAK, IARC, NTP or OSHA.

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	> 200 °F; Pensky-Martens Closed Cup
Hazardous combustion products	Refer to section 10.
Extinguishing media	CO2, water, dry chemical, or foam
Unsuitable extinguishing media	None known.
Unusual fire and explosion hazard	None known.
Special firefighting procedures	None established.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear appropriate personal protective equipment.
Environmental precautions	Do not let product enter drains. 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.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing.
Storage	Keep out of the reach of children. Keep away from excessive heat or cold.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Personal protective equipment

General	Use personal protective equipment to minimize exposure to skin and eye.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.

Exposure guidelines	Use in a well ventilated area.

9. PHYSICAL & CHEMICAL PROPERTIES

pH	6.5 - 8.75
Vapor pressure	Not determined
Boiling point	Not determined
Solubility	Soluble in water
Specific gravity	1 - 1.2
VOC content	< 3 %
Flash point	> 200 °F
Viscosity	> 2 cp
Vapor density	> 1 (air = 1.0)
Evaporation rate	Not determined
Flammability	Not determined
Oxidizing properties	Not determined.
Color	Cyan, magenta, yellow

10. CHEMICAL STABILITY & REACTIVITY INFORMATION

Stability	Stable under recommended storage conditions.
Hazardous polymerization	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.
Incompatibility	Incompatible with strong bases and oxidizing agents.

11. TOXICOLOGICAL INFORMATION

This ink formulation has not been tested for toxicological effects.
Refer to Section 3 for potential health effects and Section 4 for first aid measures.

12. ECOLOGICAL INFORMATION

Aquatic toxicity

Cyan ink
LC50/96h/Fathead minnows =< 400 mg/L
Static acute toxicity (trout), survival (100 mg/L) = 100%
Static acute toxicity (trout), survival (10 mg/L) = 100%

Magenta ink
LC50/96h/Fathead minnows =< 400 mg/L
Static acute toxicity (trout), survival (100 mg/L) = 100%
Static acute toxicity (trout), survival (10 mg/L) = 100%

Yellow ink
LC50/96h/Fathead minnows =< 400 mg/L
Static acute toxicity (trout), survival (100 mg/L) = 100%
Static acute toxicity (trout), survival (10 mg/L) = 100%

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.

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
Special precautions	None
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.

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

HMIS ratings

Health:	1
Flammability:	1
Physical hazard:	0

NFPA ratings

Health:	1
Flammability:	1
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	Jan 24 2007 9:11AM
Revision	4
Replaces sheet dated	Feb 7 2006 12:10PM
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	15. Regulatory Information: US federal 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