MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Identification of the preparation	51600B Rev B
Product use	Inkjet printing
Version #	04
Revision date	14-Sep-2010
CAS #	Mixture
Company identification	Hewlett-Packard Company 3000 Hanover Street Palo Alto, CA 94304-1185 United States Telephone 650-857-1501 Hewlett-Packard health effects line (Toll-free within the US) 1-800-457-4209 (Direct) 1-503-494-7199 HP Customer Care Line (Toll-free within the US) 1-800-474-6836 (Direct) 1-208-323-2551 Email: hpcustomer.inquiries@hp.com

2. 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.

Alkyldiol
Contact with skin may result in irritation.

Food Black 2 acid salt #3
This product may cause an allergic skin reaction.

Eye contact

2-pyrrolidone
Contact with eyes may result in irritation.

Alkyldiol
Contact with eyes may result in irritation.

Inhalation

2-pyrrolidone
Inhalation may result in respiratory irritation.

Alkyldiol
Inhalation may result in respiratory irritation.

Ingestion

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

Ethylene glycol
Harmful if swallowed. May cause kidney and liver damage. May depress the central nervous system.

Food Black 2 acid salt #3
Toxic 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	Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.
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.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Water	7732-18-5	< 40
2-pyrrolidone	616-45-5	< 30
Alkyldiol	Proprietary	< 7.5
Ethylene glycol	107-21-1	< 25
Food Black 2 acid salt #3	Proprietary	< 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.
Skin contact	Wash affected areas thoroughly with mild soap and water. Get medical attention if irritation develops or persists.
Inhalation	Remove 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

Flammable properties	None known.
Extinguishing media	
Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	None known.
Specific methods	None established.
Hazardous combustion products	Refer to section 10.

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.
Methods for containment	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.
Methods for cleaning up	Soak up with inert absorbent material.
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.

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

Occupational exposure limits

ACGIH

Components	Type	Value	Form
Ethylene glycol (107-21-1)	TWA	100.0000 mg/m3	Aerosol.

U.S. - OSHA

Components	Type	Value
Ethylene glycol (107-21-1)	Ceiling	50.0000 ppm 125.0000 mg/m3

U.S. - Tennessee

Components	Type	Value
Ethylene glycol (107-21-1)	Ceiling	50.0000 ppm 125.0000 mg/m3

Exposure guidelines Exposure limits have not been established for this product.

Engineering controls Use in a well ventilated area.

Personal protective equipment

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

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

9. Physical & Chemical Properties

Appearance Not available.

Color Not available.

Odor Not available.

Odor threshold Not available.

Physical state Liquid

Form Not available.

pH 7 - 7.4

Melting point Not available.

Freezing point Not available.

Boiling point Not determined

Flash point > 200 °F (> 93.3 °C) Pensky-Martens Closed Cup

Evaporation rate Not determined

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not determined

Vapor pressure Not determined

Vapor density Not available.

Specific gravity 1 - 1.2

Relative density Not available.

Solubility (water) Soluble in water

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity > 2 cp

VOC < 3 %

10. Chemical Stability & Reactivity Information

Chemical stability Stable under recommended storage conditions.

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.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Oral toxicity LD50/oral/rat >2500 mg/kg (OECD 401)
Not classified for acute oral toxicity according to EU Directive 67/548/EEC and 1999/45/EC.

Carcinogenicity

ACGIH Carcinogens

Ethylene glycol (CAS 107-21-1)	A4 Not classifiable as a human carcinogen.

Acute toxicity	Non- irritant in rabbit (OECD 404) Not classified for dermal irritation according to EU Directive 67/548/EEC and 1999/45/EC.
Serious eye damage/eye irritation	Non - irritant in rabbit (OECD 405)
Skin sensitization	Not available.
Sensitization	Sensitizer in guinea pig (OECD 406) Repeated contact may cause allergic reactions in very susceptible persons.

Symptoms and target organs

Target Organs (NIOSH)

Ethylene glycol (CAS 107-21-1)	Central Nervous System Eyes Respiratory system Skin

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.

12. Ecological Information

Aquatic toxicity	LC50/96h/Fathead minnows => 750 mg/L
Persistence and degradability	Not available.

13. Disposal Considerations

Disposal instructions Dispose of in compliance with federal, state, and local regulations.

14. Transport Information

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

DOT

Not regulated as dangerous goods.

IATA

Basic shipping requirements:

Proper shipping name	Not applicable
Hazard class	Not applicable
UN number	None
Packing group	N/A

Additional information:

Packaging exceptions	None

Basic shipping requirements:

Labels required	None

Additional information:

Packaging non bulk	None

IMDG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

15. Regulatory Information

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

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ethylene glycol (CAS 107-21-1)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethylene glycol (CAS 107-21-1)	Listed.

CERCLA (Superfund) reportable quantity

None

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical No

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

State regulations

US - New Jersey Community RTK (EHS Survey): Listed substance

Ethylene glycol (CAS 107-21-1)	Substance no. 0878

US - New Jersey Community RTK (EHS Survey): Reportable threshold

Ethylene glycol (CAS 107-21-1)	500 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance

2-pyrrolidone (CAS 616-45-5)	Listed.
Ethylene glycol (CAS 107-21-1)	Listed.

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.

Contains Food Black 2 acid salt

16. Other Information

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

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

NFPA ratings Health: 1
Flammability: 1
Instability: 0

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Issue date 14-Sep-2010

This data sheet contains changes from the previous version in section(s):	Hazards Identification: Other information Composition / Information on Ingredients: Disclosure Overrides 11. Toxicological Information: Oral toxicity 11. Toxicological Information: Acute toxicity 11. Toxicological Information: Further information 11. Toxicological Information: Skin sensitization 11. Toxicological Information: Serious eye damage/eye irritation 14. Transport Information: Further information
Manufacturer information	Hewlett-Packard Company 1000 NE Circle Boulevard Corvallis, OR 97330-4239 US (Direct) 1-503-494-7199 (Toll-free within the US) 1-800-457-4209

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