



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Material name 51644C
Product use Inkjet printing
Company identification 7 Goban-cho
Chiyoda-ku
Tokyo 102-0076
Japan
Telephone (+81) 3 5463-6600

Hewlett-Packard health effects line
(Toll-free within the US) 1-800-457-4209
(Direct) 1-503-494-7199
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Poison Information Centre telephone number 0120-50-3024

CAS # Mixture

2. COMPOSITION/INFORMATION ON INGREDIENTS

Preparation	CAS number	% by weight	EU classification
Water	7732-18-5	< 70	
1,5-pentanediol	111-29-5	< 10	
2-pyrrolidone	616-45-5	< 7.5	Xi; R36/38
Ethyl alkyldiol	Proprietary	< 7.5	
Metal nitrate #2	Proprietary	< 7.5	Xi, O; R36/37/38, 8
Substituted phthalocyanine salt #2	Proprietary	< 2.5	Xn, N; R22, 48/22, 51/53

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

Classification (EU) R52/53
Health hazards Not classified as a health hazard.
Environmental hazards Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Physical hazards Not classified as a physical hazard.

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



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Eye contact	<i>1,5-pentanediol</i> Contact with eyes may result in irritation. <i>2-pyrrolidone</i> Contact with eyes may result in irritation. <i>Alkyldiol ethoxylate</i> Contact can cause moderate to severe irritation and possible injury to the eyes. <i>Ethyl alkyldiol</i> Contact with eyes may result in mild irritation. <i>Metal nitrate #2</i> Contact with eyes may result in irritation.
Inhalation	<i>2-pyrrolidone</i> Inhalation may result in respiratory irritation. <i>Metal nitrate #2</i> Inhalation may result in respiratory irritation.
Ingestion	<i>2-pyrrolidone</i> Ingestion may result in nausea, vomiting and diarrhea. <i>Alkyldiol ethoxylate</i> Ingestion may cause irritation of mouth, throat, nausea, vomiting and diarrhea. <i>Metal nitrate #2</i> Contains nitrate salts, may cause methemoglobinemia. <i>Substituted phthalocyanine salt #2</i> 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.
Chronic health effects	Complete toxicity data are not available for this specific formulation 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.
Other information	This cyan ink is classified for environmental effects according to EU Directive 1999/45/EC with R52/53

4. FIRST AID MEASURES

Inhalation	Remove to fresh air. If symptoms persist, get medical attention.
Skin	Wash affected areas thoroughly with mild soap and water. 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.
Ingestion	If ingestion of a large amount does occur, seek medical attention.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Dry chemical, CO ₂ , water spray or regular foam.
Extinguishing media which must not be used for safety reasons	None known.
Specific methods	None established.
Flash point and method	> 93.3 °C (> 200 °F); Pensky-Martens Closed Cup
Unusual fire & explosion hazards	None known.



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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 cleaning up	Soak up with inert absorbent material.
Containment procedures	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.

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

Engineering measures	Provide adequate ventilation.
Personal protective equipment	
Respiratory protection	For use other than intended use (such as in the event of a large spill), goggles and respirators may be required.
Eye protection	Not required under intended use.
Skin and body protection	Protected gloves not required under intended use.
General	Use personal protective equipment to minimize exposure to skin and eye.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.
Additional exposure data	Exposure limits have not been established for this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Not available.
Physical state	Liquid.
Form	Not available.
Color	Cyan
Odor	Not available.
Odour threshold	Not available.
pH	7.8 - 8.6
Boiling point	Not determined
Flash point	> 93.3 °C (> 200 °F); Pensky-Martens Closed Cup
Auto-ignition temperature	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not determined
Vapor pressure	Not determined
Vapor density	> 1 (air = 1.0)
Relative density	Not available.
Solubility (water)	Soluble in water
Partition coefficient (n-octanol/water)	Not available.
Melting point	Not available.
Freezing point	Not available.
Evaporation rate	Not determined



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Flammability	Not available.
Specific gravity	1 - 1.2
VOC	< 3 %
Viscosity	> 2 cp

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatibility	Incompatible with strong bases and oxidizing agents.
Materials to avoid	Incompatible with strong bases and oxidizing agents.
Hazardous polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological information	Complete toxicity data are not available for this specific formulation
Further information	This ink formulation has not been tested for toxicological effects. Refer to Section 3 for potential health effects and Section 4 for first aide measures.

12. ECOLOGICAL INFORMATION

Aquatic toxicity	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%
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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 .
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14. TRANSPORT INFORMATION

ADR

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

IATA

Proper shipping name	Not applicable
Hazard class	Not applicable
UN number	None
Packing group	N/A
Packaging exceptions	None
Packaging non bulk	None
Labels required	None

General Not a regulated article under United States DOT, IATA, ADR, IMDG, or RID.

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/NDL), Australia, Japan, Philippines, South Korea, New Zealand, and China.
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16. OTHER INFORMATION

Manufacturer	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
Other information	This MSDS was prepared in accordance with USA OSHA Hazard Communications regulation (29 CFR 1910.1200).
List of relevant R phrases	R8 Contact with combustible material may cause fire. R21/22 Harmful in contact with skin and if swallowed. R22 Harmful if swallowed. R36/37/38 Irritating to eyes, respiratory system and skin. R36/38 Irritating to eyes and skin. R38 Irritating to skin. R41 Risk of serious damage to eyes. R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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.
Issue date	16-May-2009
This data sheet contains changes from the previous version in section(s):	HAZARDS IDENTIFICATION: Other information EXPOSURE CONTROLS/PERSONAL PROTECTION: Respiratory protection
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