MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name C4891Series

Version # 01

Issue date 27-Jun-2013

Product use Inkjet printing

CAS # Mixture

Company identification

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2. Hazards Identification

Emergency overview

Contact with skin and eyes may result in irritation.

Causes skin irritation.

Other hazards

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

3. Composition / Information on Ingredients

Hazardous components	**CAS #**	**Percent**
1,5-pentanediol	111-29-5	<10
2-pyrrolidone	616-45-5	<10
Non-hazardous components	**CAS #**	**Percent**
Water	7732-18-5	<70
Ethyl alkyldiol	Proprietary	<10
Alkyldicarboxylic acid	Proprietary	<7.5
Alkyldiol ethoxylate	Proprietary	<2.5
Cyan Colorant 2	Proprietary	<2.5%
Cyan Colorant 1	Proprietary	<1%

Composition comments

This ink supply contains an aqueous ink formulation.
This product has been evaluated using criteria specified in 29 CFR 1910.1200 (Hazarc Communication Standard).

4. First Aid Measures

General advice No information

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. 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

Flammable properties	None known.
Extinguishing media	
Suitable extinguishing media	CO_2, water, dry chemical, or foam
Unsuitable extinguishing media	None known.
Fire fighting equipment/instructions	Not available.
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 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

Exposure guidelines	Exposure limits have not been established for this product.
Engineering controls	Use in a well ventilated area. Provide adequate ventilation.
Personal protective equipment	
General	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.

9. Physical & Chemical Properties

Appearance	Not available.
Physical state	Liquid.
Form	Not available.
Color	Not available.
Odor	Not available.
pH	3.8 - 4.3
Vapor pressure	Not determined
Boiling point	Not determined
Melting point/Freezing point	Not available.
Solubility (water)	Soluble in water

Specific gravity	Not available.
Flash point	Not available.
Viscosity	>= 2 cp
VOC	Not available
Other information	For other VOC regulatory data/information see Section 15.

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	No information 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.
Possibility of hazardous reactions	Will not occur.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
2-pyrrolidone (CAS 616-45-5)		
Acute		
Oral		
LD50	Guinea pig	6500 mg/kg
	Rat	6500 mg/kg
Alkyldicarboxylic acid (CAS Proprietary)		
Acute		
Oral		
LD50	Rat	2260 mg/kg

Serious eye damage/eye irritation	Not available.
Further information	This ink formulation has not been tested for toxicological effects. Refer to Section 2 for potential health effects and Section 4 for first aid measures.

12. Ecological Information

Aquatic toxicity

LC50/96h/Fathead minnows =/< 400 mg/L
Static acute toxicity (trout), survival (100 mg/L) = 90%
Static acute toxicity (trout), survival (10 mg/L) = 100%

EC50/72h/algae =>100gm/L
EC50/48h/daphnia =>66mg/L

Ecotoxicological data

Components		Species	Test Results
2-pyrrolidone (CAS 616-45-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	13.21 mg/l, 48 hours
Alkyldicarboxylic acid (CAS Proprietary)			
Fish	LC50	Fish	101, 96 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	350 - 400 mg/l, 48 hours
Fish	LC50	Pink salmon (Oncorhynchus gorbuscha)	239 mg/l, 96 hours
Crustacea	EC50	Daphnia	50 - 100 mg/l, 48 Hours
			102, 48 Hours
Fish	LC50	Fish	1000, 96 Hours

Components		Species	Test Results
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	10330 - 16360 mg/l, 48 hours
Fish	LC50	Bleak (Alburnus alburnus)	> 10000 mg/l, 96 hours

Persistence and degradability Not available.

Bioaccumulation / Accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

2-pyrrolidone	-0.85
Alkyldicarboxylic acid	-0.59

Partition coefficient

2-pyrrolidone	-0.85
Alkyldicarboxylic acid	-0.59

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. Transport Information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

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

15. Regulatory Information

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

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

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

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Other 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.

State regulations

US. Massachusetts RTK - Substance List

2-pyrrolidone (CAS 616-45-5)

US. Pennsylvania RTK - Hazardous Substances

2-pyrrolidone (CAS 616-45-5)	Listed.

US. Rhode Island RTK

Not regulated.

16. Other Information

HMIS® ratings

Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 0
Instability: 0

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.

Other information

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

Issue date

27-Jun-2013

This data sheet contains changes from the previous version in section(s):

Hazards Identification: Other hazards
9. Physical & Chemical Properties: Other information
Ecological Information: Ecotoxicity

Manufacturer information

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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