



MATERIAL SAFETY DATA SHEET

1. Chemical product and company identification

Important information	*** This Safety Data Sheet is only authorised for use by HP for HP Original products. Any unauthorised use of this Safety Data Sheet is strictly prohibited and may result in legal action being taken by HP. ***	
A. Product name	C4821Series	
Other means of identification	Not available.	
B. Recommended use and Limitations on use		
Recommended use	Inkjet printing	
C. Supplier information		
	HP Korea House 23-6 Yoido-dong Youngdeungpo-gu Seoul 150-742, Korea	
Telephone	(02) 2199-0114	
HP Inc. health effects line		
(Toll-free within the US)	1-800-457-4209	
(Direct)	1-760-710-0048	
HP Inc. 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

A. Hazard category/Classification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity (fertility, the unborn child)	Category 1B
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3

B. Warning label items including precautionary statement

• Pictogram



• Signal word

Danger

• Hazard statement

H318	Causes serious eye damage.
H360	May damage fertility or the unborn child.
H412	Harmful to aquatic life with long lasting effects.

• Precautionary statement

Prevention

P280	Wear protective gloves/protective clothing/eye protection.
P202	Do not handle until all safety precautions have been read and understood.
P201	Obtain special instructions before use.
P273	Avoid release to the environment.

Response

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

Storage

P405

Store locked up.

Disposal

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard)

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.

Supplemental information

2-pyrrolidone: Specific Concentration Limits, Reproductive toxicity Category 1B, fertility or the unborn child 3%. Mixture classification threshold based on data related to developmental toxicity in animals. No adverse effects on sexual function or damage to fertility have been observed in an animal study. See Section 11.

3. Composition/information on ingredients

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Water		7732-18-5	KE-35400	60-80
2-pyrrolidone		616-45-5	KE-29978	<10
Trimethylolpropane		77-99-6	KE-13838	<10
succinic acid		110-15-6	KE-13150	<7.5
C11-C15 secondary ethoxylated alcohols		84133-50-6	KE-00456	<2.5
Di(tetramethylammonium)(29H,31H-phthalocyanin-N29, N30,N31,N32)disulfonamide disulfonate, cuprate(2-)complex, derivates		12222-04-7	KE-05-0286	<2.5

Composition comments

2-pyrrolidone: Specific Concentration Limit 3%. Mixture classification threshold based on data related to developmental toxicity in animals. No adverse effects on sexual function or damage to fertility have been observed in an animal study. See Section 11.

This ink supply contains an aqueous ink formulation.

4. First aid measures**A. In case of 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.

B. In case of skin contact

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

C. In case of inhalation

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

D. In case of swallowing

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

E. Note to physician

Not available.

5. Fire-fighting measures**A. Suitable (and unsuitable) extinguishing media****Suitable extinguishing media**

CO2, water, dry chemical, or foam

Unsuitable extinguishing media

None known.

B. Specific hazards arising from the chemical (example: hazardous combustion products)

Not available.

C. Specific methods of fire-fighting

Not available.

Specific methods

None established.

6. Accidental release measures**A. Personal precautions, protective equipment and emergency measures**

Wear appropriate personal protective equipment.

B. Environmental precautions

Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

C. Methods and materials for containment and cleaning up

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

A. Precautions for safe handling	Avoid contact with skin, eyes and clothing.
B. Conditions for safe storage (including any incompatibilities)	Keep out of the reach of children. Keep away from excessive heat or cold.

8. Exposure controls/personal protection

A. Exposure limit values, biological limit values, etc

No exposure limits noted for ingredient(s).

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Exposure limits have not been established for this product.
B. Appropriate engineering controls	Use in a well ventilated area. Provide adequate ventilation.

C. Personal protective equipment

- **Respiratory protection** Not available.
- **Eye protection** Not available.
- **Hand protection** Recommended gloves: Nitrile 4 mil minimum thickness.
- **Body protection** Use personal protective equipment to minimize exposure to skin and eye.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

A. Appearance

Physical state	Liquid.
Form	Not available.
Color	Cyan

B. Odor Not available.

C. Odor threshold Not available.

D. pH 3.8 - 4.3

E. Melting point/freezing point Not available.

F. Boiling point, initial boiling point, and boiling range Not determined

G. Flash point > 230.0 °F (> 110.0 °C) Pensky-Martens Closed Cup

H. Evaporation rate Not determined

I. Flammability (solid, gas) Not available.

J. Upper/lower limit on flammability or explosive limits

Flammability limit - lower (%)	Not determined
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

K. Vapor pressure Not determined

L. Solubility

Solubility (water) Soluble in water

M. Vapor density Not available.

N. Specific gravity Not available.

O. n-octanol/water partition coefficient Not available.

P. Auto-ignition temperature Not available.

Q. Decomposition temperature Not available.

R. Viscosity ≥ 2 cp

S. Molecular weight Not available.

Other data

Oxidizing properties	Not determined
Percent volatile	10 % estimated

10. Stability and reactivity

A. Stability and hazardous reaction potential

Stability Stable under recommended storage conditions.

Hazardous reaction potential Will not occur.

B. Conditions to avoid (e.g. static discharge, shock or vibration, etc) Not available.

C. Incompatible materials Incompatible with strong bases and oxidizing agents.

D. Hazardous decomposition products Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

A. Information on likely routes of exposure

- **Respiratory organs** Inhalation may result in mild irritation to the respiratory system.
- **Skin** Contact with skin may result in mild irritation.
- **Eyes** Causes serious eye damage.
- **Mouth** Ingestion is not a likely route of exposure.

B. Information on health hazards

- **Acute toxicity (list all possible routes of exposure)** Based on available data, the classification criteria are not met.

Components	Species	Test Results
2-pyrrolidone (CAS 616-45-5)		
<u>Acute</u>		
Oral		
LD50	Rat	> 5000 mg/kg

- **Corrosivity or irritation to the skin** Based on available data, the classification criteria are not met. Non irritant in rabbit (OECD 404)

- **Serious eye damage/eye irritation** Causes serious eye damage.

- **Respiratory sensitization** Based on available data, the classification criteria are not met.

- **Skin sensitization** Based on available data, the classification criteria are not met.

- **Carcinogenic properties /Carcinogenicity** Based on available data, the classification criteria are not met.

- **Mutagenic properties /Mutagenicity** Based on available data, the classification criteria are not met.

- **Reproductive toxicity** May damage fertility or the unborn child.

2-pyrrolidone: This component showed developmental effects only at high doses that were toxic to pregnant test animals (OECD Testing Guideline 414: Prenatal Developmental Toxicity Study). Uptake by people of small doses is not expected to cause developmental toxicity. This component has not caused adverse effects on sexual function or damage to fertility in an animal study (OECD Testing Guideline 443: Extended One-Generation Reproductive Toxicity Study).

- **Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.

- **Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

12. Ecological information

A. Ecotoxicity

Product	Species	Test Results
C4821Series		
<u>Aquatic</u>		
Acute		
Algae	EC50	Algae > 100 mg/l, 72 hours

Product	Species	Test Results	
Crustacea	EC50	Daphnia	> 66 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	< 400 mg/l, 96 hours
Components	Species	Test Results	
2-pyrrolidone (CAS 616-45-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia pulex)	13.21 mg/l, 48 hours
Di(tetramethylammonium)(29H,31H-phthalocyanin-N29,N30,N31,N32)disulfonamide disulfonate, cuprate(2-)complex, derivatives (CAS 12222-04-7)			
Aquatic			
Crustacea	EC50	Daphnia	50 - 100 mg/l, 48 Hours
succinic acid (CAS 110-15-6)			
Aquatic			
Fish	LC50	Fish	101, 96 Hours
Trimethylolpropane (CAS 77-99-6)			
Aquatic			
Crustacea	EC50	Daphnia	102, 48 Hours
Fish	LC50	Fish	1000, 96 Hours
Aquatic toxicity	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Static acute toxicity (trout), survival (100 mg/L) = 90% Static acute toxicity (trout), survival (10 mg/L) = 100%		
B. Persistence/degradability	Not available.		
C. Bioaccumulative potential	Not available.		
Octanol/water partition coefficient log Kow			
2-pyrrolidone			-0.85
succinic acid			-0.59
D. Mobility in soil	Not available.		
E. Other adverse effects	Not available.		

13. Disposal considerations

A. Method of disposal	Do not allow this material to drain into sewers/water supplies. Dispose of waste material according to Local, State, Federal, and Provincial Environmental 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 .
B. Disposal considerations (including disposal of contaminated containers or packaging)	Not available.

14. Transport information

DOT

UN number	Not available.
UN proper shipping name	Not Regulated
Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
Packing group	Not available.
Environmental hazards	
Marine pollutant	No
Special precautions for user	Not available.

IATA

UN number	Not available.
UN proper shipping name	Not Regulated
Transport hazard class(es)	
Class	Not available.

Subsidiary risk	-
Packing group	Not available.
Environmental hazards	No
Special precautions for user	Not available.
IMDG	
UN number	Not available.
UN proper shipping name	Not Regulated
Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
Packing group	Not available.
Transport hazard class(es)	
Marine pollutant	No
EmS	Not available.
Special precautions for user	Not available.
ADR	
UN number	Not available.
UN proper shipping name	Not Regulated
Transport hazard class(es)	
Class	Not available.
Subsidiary risk	-
Hazard No. (ADR)	Not available.
Tunnel restriction code	Not available.
Packing group	Not available.
Environmental hazards	No
Special precautions for user	Not available.
Further information	Not a dangerous good under DOT, IATA, ADR, IMDG, or RID.
	Transport in bulk according to Annex II of MARPOL73/78 and the IBC code: Not applicable.

15. Regulatory information

A. Restrictions under the Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacturing

Not regulated.

Harmful Substances Requiring Permission for Manufacture or Use

Not regulated.

Controlled Hazardous Substances

Not regulated.

Harmful Substances Requiring Special Medical Examination

Not regulated.

Workplace Environmental Monitoring Harmful Materials

Not regulated.

Occupational Exposure Limit

Not regulated.

B. Restrictions under the Chemicals Control Law (Previously Toxic Chemicals Control Law)

Accidental Release Prevention Substances

Not regulated.

Act on the Registration and Evaluation of Chemicals

Banned Toxic Chemicals

Not regulated.

Designated Existing Chemicals Subject to Registration (PEC) (MoE No. 2015-92)

Not listed.

Restricted Chemical Substances

Not regulated.

Toxic Chemicals

Not regulated.

C. Restrictions under the Dangerous Substance Safety Management Act

D. Restrictions under the Wastes Control Act

Halogenated Materials in Waste Organic Solvents

Not regulated.

Hazardous Substances

Not regulated.

E. Restrictions under other foreign or domestic laws

Clean Air Conservation Act

Air Pollutants

Not regulated.

Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides (Rules on PIC, MoE No. 2014-252, Dec. 31, 2014; Standards for Pesticides, RDA No. 2014-26), as amended

Not listed.

Specific Air Pollutants

Not regulated.

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.

16. Other information

A. Source of information

Not available.

B. Issue date

27-Jun-2013

C. Number of revisions and date of most recent revision

06-Jun-2020 (11 revision)

D. Other

Not available.

Disclaimer

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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