



MATERIAL SAFETY DATA SHEET

1. Chemical product and company identification

A. Product name	C9438 Series
B. Recommended use and Limitations on use	
Recommended use	Inkjet printing
Company identification	HP Korea House 23-6 Yoido-dong Youngdeungpo-gu Seoul 150-742, Korea Telephone (02) 2199-0114
	HP health effects line (Toll-free within the US) 1-800-457-4209 (Direct) 1-760-710-0048 HP Customer Care Line (Toll-free within the US) 1-800-474-6836 (Direct) 1-208-323-2551 Email: hpcustomer.inquiries@hp.com
Issue date	18-Mar-2015
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Version #	02

2. Hazards identification

A. Hazard category/Classification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.

B. Warning label items including precautionary statement

- **Pictogram** None.
- **Signal word** None.
- **Hazard statement** None.
- **Precautionary statement**
 - Prevention** None
 - Response** None
 - Storage** None
 - Disposal** None

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

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. Carbon black is classified by the IARC as a Group 2B carcinogen (the substance is possibly carcinogenic to humans). Carbon black in this preparation, due to its bound form, does not present this carcinogenic risk. None of the other ingredients in this preparation are classified as carcinogens according to ACGIH, EU, IARC, MAK, NTP or OSHA.

3. Composition/information on ingredients

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Water		7732-18-5	KE-35400	75-85
2-pyrrolidone		616-45-5	KE-29978	<7.5

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Glycerol		56-81-5	KE-29297	<7.5
Alkyldiol		Proprietary	Proprietary	<5
Diethylene glycol		111-46-6	KE-27694	<5
Carbon black		1333-86-4	KE-04682	<1

Composition comments 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. Get medical attention if irritation develops or persists.
- 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** Dry chemical, CO₂, water spray or regular 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.
- C. Specific methods of fire-fighting** Not available.

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

Korea. OELs. Standards for Exposure to Chemical Substances and Physically Hazardous Factors

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m ³	
Glycerol (CAS 56-81-5)	TWA	10 mg/m ³	Mist.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	3 mg/m ³	Inhalable fraction.
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.		
C. Personal protective equipment			
• Respiratory protection	Not available.		
• Eye protection	Not available.		
• Hand protection	Not available.		
• Body protection	Not available.		
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.		
Recommended monitoring procedures			
Additional exposure data	Exposure limits have not been established for this product.		

9. Physical and chemical properties**A. Appearance****Physical state** Not available.**Color** Grey, Dark Grey, Black.**B. Odor** Not available.**C. Odor threshold** Not available.**D. pH** 9.4**E. Melting point/freezing point** Not available.**F. Boiling point, initial boiling point, and boiling range** Not determined**G. Flash point** 200.0 °F (93.3 °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**
>= 1 (air=1.00)
>= 1 (air=1.00)**N. Specific gravity** Not available.**O. n-octanol/water partition coefficient** Not available.**P. Auto-ignition temperature** Not determined**Q. Decomposition temperature** Not available.**R. Viscosity** Not available.**S. Molecular weight** Not available.**Other data****Oxidizing properties** Not determined**VOC (Weight %)** < 96 g/l

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** Not available.
- **Mouth** Not available.
- **Eyes** Not available.
- **Skin** Not available.

B. Information on health hazards

- **Acute toxicity (list all possible routes of exposure)** Based on available data, the classification criteria are not met.
- **Corrosivity or irritation to the skin** Based on available data, the classification criteria are not met.
- **Serious eye damage/eye irritation** Based on available data, the classification criteria are not met.
- **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.

Carbon black is classified as a carcinogen by the IARC (possibly carcinogenic to humans, Group 2B) and by the State of California under Proposition 65. In their evaluations of carbon black, both organizations indicate that exposure to carbon black, per se, does not occur when it remains bound within a product matrix, specifically, rubber, ink, or paint. Carbon black is present only in a bound form in this preparation.

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

Components	Species	Test Results
2-pyrrolidone (CAS 616-45-5)		
Acute		
<i>Oral</i>		
LD50	Guinea pig	6500 mg/kg
	Rat	6500 mg/kg
Carbon black (CAS 1333-86-4)		
Acute		
<i>Oral</i>		
LD50	Rat	> 8000 mg/kg

Components	Species	Test Results
Diethylene glycol (CAS 111-46-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	11890 mg/kg
<i>Oral</i>		
LD50	Cat	3300 mg/kg
	Dog	9000 mg/kg
	Guinea pig	8700 mg/kg
	Mouse	13.3 g/kg
	Rabbit	26.9 g/kg
	Rat	12565 mg/kg
<i>Other</i>		
LD50	Mouse	9.6 g/kg
	Rabbit	2000 mg/kg
	Rat	7700 mg/kg
		7.7 g/kg

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

A. Ecotoxicity

Product	Species	Test Results
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C9438 Series (CAS Mixture)

Aquatic

Acute

Fish LC50 Fathead minnow (*Pimephales promelas*) > 750 mg/l, 96 hours

Components	Species	Test Results
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2-pyrrolidone (CAS 616-45-5)

Aquatic

Crustacea EC50 Water flea (*Daphnia pulex*) 13.21 mg/l, 48 hours

Diethylene glycol (CAS 111-46-6)

Aquatic

Fish LC50 Western mosquitofish (*Gambusia affinis*) > 32000 mg/l, 96 hours

Glycerol (CAS 56-81-5)

Aquatic

Fish LC50 Rainbow trout, donaldson trout (*Oncorhynchus mykiss*) 51000 - 57000 mg/l, 96 hours

Hazardous to the aquatic environment, acute hazard Not available.

Hazardous to the aquatic environment, long-term hazard Not available.

B. Persistence/degradability Not available.

C. Bioaccumulative potential

Bioaccumulative potential

Octanol/water partition coefficient log Kow

2-pyrrolidone -0.85

Glycerol -1.76

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

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

ADR

Not regulated as dangerous goods.

Further information

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

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

GLYCERIN MIST (CAS 56-81-5)

B. Restrictions under the Toxic Chemicals Control Law

Accidental Release Prevention Substances

Not regulated.

Banned Toxic Chemicals

Not regulated.

Observational Chemicals

Not regulated.

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.

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

16. Other information

A. Source of information

Not available.

B. Issue date

18-Mar-2015

Revision date

09-Sep-2015

C. Number of revisions and date of most recent revision

09-Sep-2015 (02 revision)

D. Other

Not available.

Disclaimer

This Safety Data Sheet document is provided without charge to customers of HP. Data is the most current known to HP 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.

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

Hazards identification: Other hazards
Other information: Disclaimer

Manufacturer information

HP
1501 Page Mill Road
Palo Alto, CA 94304-1112 US
Direct 1-650-857-5020

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