# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Material name** C9453Series

**Version #** 02

**Issue date** 30-Oct-2012

**Revision date** 25-Jun-2013

**Product use** Inkjet printing

**Company identification**

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## 2. Hazards Identification

**Emergency overview** Contact with skin and eyes may result in irritation. Ingestion may result in nausea, vomiting and diarrhea. May cause sensitization of susceptible persons.

**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** |
|---|---|---|
| 2-pyrrolidone | 616-45-5 | <7.5 |
| Diethylene glycol | 111-46-6 | <7.5 |
| Alkyldiol | Proprietary | <5 |
| **Non-hazardous components** | **CAS #** | **Percent** |
| Water | 7732-18-5 | <70 |
| Triethanolamine | 102-71-6 | <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 material is ingested, immediately contact a physician or poison control center.

## 5. Fire Fighting Measures

**Flammable properties** Combustion generates toxic fumes of fluoride/fluorine compounds; aldehydes; ketones; acetylene.

**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.

**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. Remove and wash contaminated clothing before re-use.

**Storage** Keep out of the reach of children. Keep away from excessive heat or cold. Store away from strong oxidizers.

## 8. Exposure Controls / Personal Protection

**Occupational exposure limits**

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| Triethanolamine (CAS 102-71-6) | TWA | 5 mg/m3 |

**US. AIHA Workplace Environmental Exposure Level (WEEL) Guides**

| Components | Type | Value |
|---|---|---|
| Diethylene glycol (CAS 111-46-6) | TWA | 10 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** 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** Not available.

**Form** Not available.

**Color** Magenta

**Odor** Not available.

**pH** 9.4

**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. |
| **VOC** | < 241 g/l |
| **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. aldehydes, ketones, hydrogen fluoride, fluorinated 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 |
| Diethylene glycol (CAS 111-46-6) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | 11890 mg/kg |
| *Oral* | | |
| LD50 | Cat | 3300 mg/kg |
| | Dog | 9000 mg/kg |
| | Guinea pig | 8700 mg/kg |
| | | 14 g/kg |
| | Mouse | 23700 mg/kg |
| | | 13.3 g/kg |
| | Rabbit | 26.9 g/kg |
| | Rat | 12565 mg/kg |
| | | 15.6 g/kg |
| *Other* | | |
| LD50 | Mouse | 22500 mg/kg |
| | | 9.6 g/kg |
| | Rabbit | 2000 mg/kg |
| | Rat | 7700 mg/kg |
| | | 7.7 g/kg |
| Triethanolamine (CAS 102-71-6) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 20000 mg/kg |

| Components | Species | Test Results |
|---|---|---|
| *Oral* | | |
| LD50 | Guinea pig | 5300 mg/kg |
| | Rat | 8 g/kg |
| *Other* | | |
| LD50 | Mouse | 1450 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 => 750 mg/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 |
| Diethylene glycol (CAS 111-46-6) | | | |
| **Aquatic** | | | |
| Fish | LC50 | Western mosquitofish (Gambusia affinis) | > 32000 mg/l, 96 hours |
| Triethanolamine (CAS 102-71-6) | | | |
| **Aquatic** | | | |
| Crustacea | EC50 | Water flea (Ceriodaphnia dubia) | 565.2 - 658.3 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | 10610 - 13010 mg/l, 96 hours |

**Persistence and degradability** Not available.

**Bioaccumulation / Accumulation**

**Bioaccumulative potential**

**Octanol/water partition coefficient log Kow**

| | |
|---|---|
| 2-pyrrolidone | -0.85 |
| Triethanolamine | -1 |

**Partition coefficient**

| | |
|---|---|
| 2-pyrrolidone | -0.85 |
| Triethanolamine | -1 |

## 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 information** VOC content (less water, less exempt compounds) = < 859 g/L (U.S. requirement, not for emissions)
VOC data based on formulation (Organic compounds minus solids)

**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. |
| Diethylene glycol (CAS 111-46-6) | Listed. |

**US. Rhode Island RTK**

Diethylene glycol (CAS 111-46-6)

## 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** 30-Oct-2012

| | |
|---|---|
| **This data sheet contains changes from the previous version in section(s):** | Hazards Identification: Other hazards<br>9. Physical & Chemical Properties: Other 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 |