



# Safety Data Sheet

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CR328Series[B][2]-MSDS\_KOREA-English-48.pdf

CR328Series[C][2]-MSDS\_KOREA-English-45.pdf



# 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** CR328Series[B][2]

**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** Reproductive toxicity (fertility, the unborn child) Category 1B

**Environmental hazards** Not classified.

### B. Warning label items including precautionary statement

• Pictogram



• Signal word Danger

• Hazard statement

H360 May damage fertility or the unborn child.

• 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.

**Response**

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)**

Complete toxicity data are not available for this specific formulation.

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.

**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.

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**3. Composition/information on ingredients**

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Water		7732-18-5	KE-35400	50-70
2-pyrrolidone		616-45-5	KE-29978	<15

**Composition comments**

This ink supply contains an aqueous ink formulation.

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.

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**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.

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**5. Fire-fighting measures**

**A. Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media**

CO2, water, dry chemical, or foam For small (incipient) fires, use media such as foam, sand, dry chemical, or carbon dioxide. For large fires use very large (flooding) quantities of water and/or foam, applied as a mist or spray.

**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.

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**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.

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**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.

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**8. Exposure controls/personal protection**

**A. Exposure limit values, biological limit values, etc**

No exposure limits noted for ingredient(s).

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Exposure guidelines</b>	Exposure limits have not been established for this product.
<b>B. Appropriate engineering controls</b>	Use in a well ventilated area.
<b>C. Personal protective equipment</b>	
• <b>Respiratory protection</b>	Not available.
• <b>Eye protection</b>	Not available.
• <b>Hand protection</b>	Not available.
• <b>Body protection</b>	Use personal protective equipment to minimize exposure to skin and eye.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.
	Under extreme work place conditions, ink vapors may condense outside of the printing system. The Waste Profile Datasheet for your printer at <a href="https://hpllatexknowledgecenter.com/applications/wasteprofiles">https://hpllatexknowledgecenter.com/applications/wasteprofiles</a> contains more information on how to properly handle and dispose of the condensate.

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## 9. Physical and chemical properties

<b>A. Appearance</b>	
<b>Physical state</b>	Liquid.
<b>Form</b>	Not available.
<b>Color</b>	Black.
<b>B. Odor</b>	Not available.
<b>C. Odor threshold</b>	Not available.
<b>D. pH</b>	9
<b>E. Melting point/freezing point</b>	Not available.
<b>F. Boiling point, initial boiling point, and boiling range</b>	Not available.
<b>G. Flash point</b>	> 230.0 °F (> 110.0 °C) Pensky-Martens Closed Cup
<b>H. Evaporation rate</b>	Not available.
<b>I. Flammability (solid, gas)</b>	Not available.
<b>J. Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>K. Vapor pressure</b>	Not available.
<b>L. Solubility</b>	
<b>Solubility (water)</b>	Not available.
<b>M. Vapor density</b>	Not available.
<b>N. Specific gravity</b>	1 g/cm <sup>3</sup>
<b>O. n-octanol/water partition coefficient</b>	Not available.
<b>P. Auto-ignition temperature</b>	Not available.
<b>Q. Decomposition temperature</b>	Not available.
<b>R. Viscosity</b>	Not available.
<b>S. Molecular weight</b>	Not available.
<b>Other data</b>	
<b>Percent volatile</b>	14 % estimated
<b>VOC</b>	294 g/l Method 24/ASTM D403-93

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## 10. Stability and reactivity

<b>A. Stability and hazardous reaction potential</b>	
<b>Stability</b>	Stable under recommended storage conditions.
<b>Hazardous reaction potential</b>	Will not occur.

<b>B. Conditions to avoid (e.g. static discharge, shock or vibration, etc)</b>	Not available.
<b>C. Incompatible materials</b>	Incompatible with strong bases and oxidizing agents.
<b>D. Hazardous decomposition products</b>	Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons., hydrogen fluoride, fluorinated hydrocarbons.

## 11. Toxicological information

### A. Information on likely routes of exposure

- **Respiratory organs** Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
- **Skin** Contact with skin may result in mild irritation.
- **Eyes** Contact with eyes may result in mild irritation.
- **Mouth** Health injuries are not known or expected under normal use.

### 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>		
<u>Oral</u>		
LD50	Rat	> 5000 mg/kg
• <b>Corrosivity or irritation to the skin</b>	Based on available data, the classification criteria are not met.	
• <b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met. Not classified as an irritant according to, OECD 405.	
• <b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met.	
• <b>Skin sensitization</b>	Based on available data, the classification criteria are not met.	
• <b>Carcinogenic properties /Carcinogenicity</b>	Based on available data, the classification criteria are not met.	
• <b>Mutagenic properties /Mutagenicity</b>	Based on available data, the classification criteria are not met. Negative, does not indicate mutagenic potential (Ames Test: Salmonella typhimurium)	
• <b>Reproductive toxicity</b>	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).	
• <b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.	
• <b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.	
• <b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.	

## 12. Ecological information

### A. Ecotoxicity

Product	Species	Test Results
CR328Series[B][2]		
<u>Aquatic</u>		
<u>Acute</u>		
Fish	LC50	Fathead minnow (Pimephales promelas) < 531.3 mg/l, 96 hours
Components	Species	Test Results
2-pyrrolidone (CAS 616-45-5)		
<u>Aquatic</u>		
Crustacea	EC50	Water flea (Daphnia pulex) 13.21 mg/l, 48 hours

**B. Persistence/degradability** Not available.

**C. Bioaccumulative potential**

**Octanol/water partition coefficient log Kow**

2-pyrrolidone

-0.85

**D. Mobility in soil** Not available.**E. Other adverse effects** Not available.**13. Disposal considerations**

- A. Method of disposal** Do not dispose of together with general office waste. Do not allow this material to drain into sewers/water supplies.  
Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.  
Ensure collection and disposal with an appropriately licensed waste contractor.  
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** None  
**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** None  
**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.

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## 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.

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## 16. Other information

A. Source of information	Not available.
B. Issue date	26-May-2015
C. Number of revisions and date of most recent revision	25-Apr-2020 (09 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 safety data sheet is meant to convey information about HP inks (toners) provided in HP Original ink (toner) supplies. If our Safety Data Sheet has been provided to you with a refilled, remanufactured, compatible or other non-HP Original supply please be aware that the information contained herein was not meant to convey information about such products and there could be considerable differences from information in this document and the safety information for the product you purchased. Please contact the seller of the refilled, remanufactured or compatible supplies for applicable information, including information on personal protective equipment, exposure risks and safe handling guidance. HP does not accept refilled, remanufactured or compatible supplies in our recycling programs.

**Revision information**

Hazards identification: Supplemental information  
Composition/information on ingredients: Composition comments  
Toxicological information: Reproductivity

**Explanation of abbreviations**

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>CAS</b>	Chemical Abstracts Service
<b>CERCLA</b>	Comprehensive Environmental Response Compensation and Liability Act
<b>CFR</b>	Code of Federal Regulations
<b>COC</b>	Cleveland Open Cup
<b>DOT</b>	Department of Transportation
<b>EPCRA</b>	Emergency Planning and Community Right-to-Know Act (aka SARA)
<b>IARC</b>	International Agency for Research on Cancer
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTP</b>	National Toxicology Program
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PEL</b>	Permissible Exposure Limit
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>REC</b>	Recommended
<b>REL</b>	Recommended Exposure Limit
<b>SARA</b>	Superfund Amendments and Reauthorization Act of 1986
<b>STEL</b>	Short-Term Exposure Limit
<b>TCLP</b>	Toxicity Characteristics Leaching Procedure
<b>TLV</b>	Threshold Limit Value
<b>TSCA</b>	Toxic Substances Control Act
<b>VOC</b>	Volatile Organic Compounds





# MATERIAL SAFETY DATA SHEET

## 1. Chemical product and company identification

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**A. Product name** CR328Series[C][2]

**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  
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**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** Reproductive toxicity (fertility, the unborn child) Category 1B

**Environmental hazards** Not classified.

### B. Warning label items including precautionary statement

• Pictogram



• Signal word Danger

• Hazard statement

H360 May damage fertility or the unborn child.

• 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.

**Response**

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)**

Complete toxicity data are not available for this specific formulation.

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.

**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.

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### 3. Composition/information on ingredients

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Water		7732-18-5	KE-35400	50-70
2-pyrrolidone		616-45-5	KE-29978	<15

**Composition comments**

This ink supply contains an aqueous ink formulation.

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.

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### 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.

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### 5. Fire-fighting measures

**A. Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media**

CO2, water, dry chemical, or foam For small (incipient) fires, use media such as foam, sand, dry chemical, or carbon dioxide. For large fires use very large (flooding) quantities of water and/or foam, applied as a mist or spray.

**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.

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### 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.

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### 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.

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### 8. Exposure controls/personal protection

**A. Exposure limit values, biological limit values, etc**

No exposure limits noted for ingredient(s).

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Exposure guidelines</b>	Exposure limits have not been established for this product.
<b>B. Appropriate engineering controls</b>	Use in a well ventilated area.
<b>C. Personal protective equipment</b>	
• <b>Respiratory protection</b>	Not available.
• <b>Eye protection</b>	Not available.
• <b>Hand protection</b>	Not available.
• <b>Body protection</b>	Use personal protective equipment to minimize exposure to skin and eye.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.
	Under extreme work place conditions, ink vapors may condense outside of the printing system. The Waste Profile Datasheet for your printer at <a href="https://hpllatexknowledgecenter.com/applications/wasteprofiles">https://hpllatexknowledgecenter.com/applications/wasteprofiles</a> contains more information on how to properly handle and dispose of the condensate.

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## 9. Physical and chemical properties

<b>A. Appearance</b>	
<b>Physical state</b>	Liquid.
<b>Form</b>	Not available.
<b>Color</b>	Cyan
<b>B. Odor</b>	Not available.
<b>C. Odor threshold</b>	Not available.
<b>D. pH</b>	9
<b>E. Melting point/freezing point</b>	Not available.
<b>F. Boiling point, initial boiling point, and boiling range</b>	Not available.
<b>G. Flash point</b>	> 230.0 °F (> 110.0 °C) Pensky-Martens Closed Cup
<b>H. Evaporation rate</b>	Not available.
<b>I. Flammability (solid, gas)</b>	Not available.
<b>J. Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>K. Vapor pressure</b>	Not available.
<b>L. Solubility</b>	
<b>Solubility (water)</b>	Not available.
<b>M. Vapor density</b>	Not available.
<b>N. Specific gravity</b>	1 g/cm <sup>3</sup>
<b>O. n-octanol/water partition coefficient</b>	Not available.
<b>P. Auto-ignition temperature</b>	Not available.
<b>Q. Decomposition temperature</b>	Not available.
<b>R. Viscosity</b>	Not available.
<b>S. Molecular weight</b>	Not available.
<b>Other data</b>	
<b>Percent volatile</b>	14 % estimated
<b>VOC</b>	293 g/l Method 24/ASTM D403-93

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## 10. Stability and reactivity

<b>A. Stability and hazardous reaction potential</b>	
<b>Stability</b>	Stable under recommended storage conditions.
<b>Hazardous reaction potential</b>	Will not occur.

<b>B. Conditions to avoid (e.g. static discharge, shock or vibration, etc)</b>	Not available.
<b>C. Incompatible materials</b>	Incompatible with strong bases and oxidizing agents.
<b>D. Hazardous decomposition products</b>	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** Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
- **Skin** Contact with skin may result in mild irritation.
- **Eyes** Contact with eyes may result in mild irritation.
- **Mouth** Health injuries are not known or expected under normal use.

### 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>		
<u>Oral</u>		
LD50	Rat	> 5000 mg/kg
• <b>Corrosivity or irritation to the skin</b>	Based on available data, the classification criteria are not met.	
• <b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met. Not classified as an irritant according to, OECD 405.	
• <b>Respiratory sensitization</b>	Based on available data, the classification criteria are not met.	
• <b>Skin sensitization</b>	Based on available data, the classification criteria are not met.	
• <b>Carcinogenic properties /Carcinogenicity</b>	Based on available data, the classification criteria are not met.	
• <b>Mutagenic properties /Mutagenicity</b>	Based on available data, the classification criteria are not met. Negative, does not indicate mutagenic potential (Ames Test: Salmonella typhimurium)	
• <b>Reproductive toxicity</b>	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).	
• <b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.	
• <b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.	
• <b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.	

## 12. Ecological information

### A. Ecotoxicity

Product	Species	Test Results
CR328Series[C][2]		
<u>Aquatic</u>		
<u>Acute</u>		
Fish	LC50	Fathead minnow (Pimephales promelas) < 400 mg/l, 96 hours
Components	Species	Test Results
2-pyrrolidone (CAS 616-45-5)		
<u>Aquatic</u>		
Crustacea	EC50	Water flea (Daphnia pulex) 13.21 mg/l, 48 hours

**B. Persistence/degradability** Not available.

**C. Bioaccumulative potential**

**Octanol/water partition coefficient log Kow**

2-pyrrolidone

-0.85

D. Mobility in soil Not available.

E. Other adverse effects Not available.

**13. Disposal considerations**

**A. Method of disposal** Do not dispose of together with general office waste. Do not allow this material to drain into sewers/water supplies.  
Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.  
Ensure collection and disposal with an appropriately licensed waste contractor.

**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** None  
**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** None  
**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.

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## 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.

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## 16. Other information

A. Source of information	Not available.
B. Issue date	25-May-2015
C. Number of revisions and date of most recent revision	25-Apr-2020 (09 revision)
D. Other	Not available.

**Disclaimer**

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**Revision information**

Hazards identification: Supplemental information  
Composition/information on ingredients: Composition comments  
Toxicological information: Reproductivity

**Explanation of abbreviations**

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists
<b>CAS</b>	Chemical Abstracts Service
<b>CERCLA</b>	Comprehensive Environmental Response Compensation and Liability Act
<b>CFR</b>	Code of Federal Regulations
<b>COC</b>	Cleveland Open Cup
<b>DOT</b>	Department of Transportation
<b>EPCRA</b>	Emergency Planning and Community Right-to-Know Act (aka SARA)
<b>IARC</b>	International Agency for Research on Cancer
<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>NTP</b>	National Toxicology Program
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PEL</b>	Permissible Exposure Limit
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>REC</b>	Recommended
<b>REL</b>	Recommended Exposure Limit
<b>SARA</b>	Superfund Amendments and Reauthorization Act of 1986
<b>STEL</b>	Short-Term Exposure Limit
<b>TCLP</b>	Toxicity Characteristics Leaching Procedure
<b>TLV</b>	Threshold Limit Value
<b>TSCA</b>	Toxic Substances Control Act
<b>VOC</b>	Volatile Organic Compounds