SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Trade name or designation of the mixture     X4D16Series
Registration number                           -
Synonyms                                      None.
Issue date                                    17-Aug-2017
Version number                                02
Revision date                                 09-Sep-2017
Supersedes date                               17-Aug-2017

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses                                Inkjet printing
Uses advised against                          None known.

1.3. Details of the supplier of the safety data sheet
HP Printing and Computing Solutions S.L.
calle de José Echegaray 18
28232-Las Rozas de Madrid (Madrid)
Spain
Telephone                                     91 6348800

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
1.4 Emergency telephone number               + 34 91 562 04 20

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 as amended
This mixture does not meet the criteria for classification according to Regulation (EC) 1272/2008 as amended.

2.2. Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
Contains:                                     2-pyrrolidone, Water
Hazard pictograms                            None.
Signal word                                  None.
Hazard statements                            The mixture does not meet the criteria for classification.

Precautionary statements
Prevention                                    Not available.
Response                                      Not available.
Storage                                       Not available.
Disposal                                      Not available.

Supplemental label information
Contains 1,2-Benzisothiazolin-3-one and 2-Methyl-2H-isothiazol-3-one. May produce an allergic reaction.
2.3. Other hazards

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.

None of the components present in this formulation at concentrations equal to or greater than 0.1% are listed by EU, MAK, IARC, NTP or OSHA.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>%</th>
<th>CAS-No. / EC No.</th>
<th>REACH Registration No.</th>
<th>Index No.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>70-90</td>
<td>7732-18-5</td>
<td>231-791-2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Classification: -

2-pyrrolidone | <10  | 616-45-5          | 01-2119475471-37-XXXX  | -         |       |

Classification: Eye Irrit. 2; H319

Composition comments: This ink supply contains an aqueous ink formulation.

SECTION 4: First aid measures

General information: Not available.

4.1. Description of first aid measures

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

Skin contact: Wash affected areas thoroughly with mild soap and water. Get medical attention if irritation develops or persists.

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.

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

4.2. Most important symptoms and effects, both acute and delayed: Not available.

4.3. Indication of any immediate medical attention and special treatment needed: Not available.

SECTION 5: Firefighting measures

General fire hazards: Not available.

5.1. Extinguishing media

Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture: Not available.

5.3. Advice for firefighters

Special protective equipment for firefighters: Not available.

Special fire fighting procedures: Not available.

Specific methods: None established.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear appropriate personal protective equipment.

For emergency responders: Not available.

6.2. Environmental precautions: Do not let product enter drains. Do not flush into surface water or sanitary sewer system.
6.3. Methods and material 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.

6.4. Reference to other sections

Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Keep out of the reach of children. Keep away from excessive heat or cold.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Not available.

Derived no effect levels (DNELs)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Route</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone (CAS 616-45-5)</td>
<td>Consumers</td>
<td>Dermal</td>
<td>6 mg/kg bw/d</td>
<td>Systemic long term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal</td>
<td>167 mg/kg bw/d</td>
<td>Systemic acute short term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inhalation</td>
<td>17.1 mg/m3</td>
<td>Systemic long term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oral</td>
<td>5.2 mg/kg bw/d</td>
<td>Systemic long term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oral</td>
<td>33.3 mg/kg bw/d</td>
<td>Systemic acute short term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Workers</td>
<td>Dermal</td>
<td>Systemic acute short term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal</td>
<td>277 mg/kg bw/d</td>
<td>Systemic long term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inhalation</td>
<td>10 mg/kg bw/d</td>
<td>Systemic long term</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inhalation</td>
<td>57.8 mg/m3</td>
<td>Systemic long term</td>
</tr>
</tbody>
</table>

Predicted no effect concentrations (PNECs)

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Route</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone (CAS 616-45-5)</td>
<td>Not applicable</td>
<td>Freshwater</td>
<td>0.5 mg/l</td>
<td>Releases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intermittent</td>
<td>0.5 mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>0.05 mg/l</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sediment</td>
<td>0.4205 mg/kg</td>
<td>Freshwater</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>0.0612 mg/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STP</td>
<td>10 mg/l</td>
<td>Sewage Treatment Plant</td>
</tr>
</tbody>
</table>

Exposure guidelines

Exposure limits have not been established for this product.

8.2. Exposure controls

Appropriate engineering controls

Use in a well ventilated area.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment to minimize exposure to skin and eye.

Eye/face protection

Not available.

Skin protection

- Hand protection
  Not available.

- Other
  Not available.

Respiratory protection

Not available.

Thermal hazards

Not available.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state
  Not available.

Form
  Not available.

Color
  Yellow
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>9 - 9.6</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 230.0 °F (&gt; 110.0 °C)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not determined</td>
</tr>
<tr>
<td>9.2. Other information</td>
<td>205 g/l</td>
</tr>
<tr>
<td>VOC</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 10: Stability and reactivity**

10.1. Reactivity
Not available.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Will not occur.

10.4. Conditions to avoid
Not available.

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

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

**SECTION 11: Toxicological information**

**General information**
Not available.

**Information on likely routes of exposure**

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

**Symptoms**
Not available.

**11.1. Information on toxicological effects**

**Acute toxicity**
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone (CAS 616-45-5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Acute**
  - Oral
    - LD50: Rat, > 5000 mg/kg

- **Skin corrosion/irritation**
  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.

**Germ cell mutagenicity**
Based on available data, the classification criteria are not met.

**Carcinogenicity**
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.

**Mixture versus substance information**
Not available.

**Other 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.

---

**SECTION 12: Ecological information**

**12.1. Toxicity**

**Aquatic toxicity**
No information available.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone (CAS 616-45-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Crustacea</strong></td>
<td>EC50</td>
<td>Water flea (Daphnia pulex)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13.21 mg/l, 48 hours</td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**
Not available.

**12.3. Bioaccumulative potential**
Not available.

**Partition coefficient n-octanol/water (log Kow)**

<table>
<thead>
<tr>
<th>Component</th>
<th>log Kow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>-0.85</td>
</tr>
</tbody>
</table>

**Bioconcentration factor (BCF)**
Not available.

**12.4. Mobility in soil**
Not available.

**12.5. Results of PBT and vPvB assessment**
Not a PBT or vPvB substance or mixture.

**12.6. Other adverse effects**
Not available.

---

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

<table>
<thead>
<tr>
<th>Category</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual waste</td>
<td>Not available.</td>
</tr>
<tr>
<td>Contaminated packaging</td>
<td>Not available.</td>
</tr>
<tr>
<td>EU waste code</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Disposal methods/information**
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.

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**SECTION 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.
SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations


Authorizations


Restrictions on use


Other EU regulations

- Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended: Not listed.

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.

Other information

- This Safety Data Sheet complies with the requirements of Regulation (EU) 2015/830.

National regulations

- Not available.

15.2. Chemical safety assessment

See attached SUMI or GEIS document, if applicable.

SECTION 16: Other information

References


Information on evaluation method leading to the classification of mixture

- The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.
H319 Causes serious eye irritation.

SECTION 16: Other information: Information on evaluation method leading to the classification of mixture

Follow training instructions when handling this material.

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.

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