SAFETY DATA SHEET

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

1.1 Product identifier

Product name: Cyan Ink PN: 53376

Description of the product type: Part number:

| Cyan Ink | 53376 |

REACH Status: EU (REACH): All components of the toner formulation are registered, pre-registered or exempt under REACH. Pre-registered chemicals will be registered between 2011 and 2018.

Product type: Liquid.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use: Inkjet printer
Area of application: Consumer applications.

1.3 Details of the supplier of the safety data sheet

Lexmark International, Inc.
740 West New Circle Road
Lexington, Ky 40550

e-mail address of person responsible for this SDS: rcassidy@lexmark.com

Only representative: Environ Sterling House
The Bourse, Boar Leeds,
L5I 5EQ, United Kingdom

e-mail address of person responsible for this SDS: sbullock@uk.environcorp.com

Emergency telephone number (with hours of operation): +44 (0) 113 245 7552

1.4 Emergency telephone number

Supplier

Telephone number:
Emergency: 1-859-232-3333
ChemTel: US/Canada/Puerto Rico 1-800-255-3924
International 1-813-248-0585
(Collect calls accepted) Contract # MIS 0007054

Hours of operation: 24/7

Date of issue/Date of revision: 24 February 2023
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Not classified.

Ingredients of unknown toxicity: Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3%

Ingredients of unknown ecotoxicity: Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3%

Classification according to Directive 1999/45/EC [DPD]
The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

2.2 Label elements

Hazard pictograms: Not applicable.

Signal word: No signal word.

Hazard statements: No known significant effects or critical hazards.

Precautionary statements

Prevention: Not applicable.

Response: Not applicable.

Storage: Not applicable.

Disposal: Not applicable.

Hazardous ingredients: Not applicable.

Supplemental label elements: Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

2.3 Other hazards

Other hazards which do not result in classification: None known.

SECTION 3: Composition/information on ingredients

Substance/mixture: Mixture

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>EC: 210-483-1&lt;br&gt;CAS: 616-45-5&lt;br&gt;EC: 230-029-6&lt;br&gt;CAS: 6920-22-5</td>
<td>≥5 - &lt;10&lt;br&gt;≥3 - &lt;5</td>
<td>Xn; R22</td>
<td>Acute Tox. 4, H302&lt;br&gt;Skin Irrit. 2, H315&lt;br&gt;Eye Irrit. 2, H319&lt;br&gt;STOT SE 3, H335</td>
<td>[1]</td>
</tr>
<tr>
<td>DL-hexane-1,2-diol</td>
<td></td>
<td></td>
<td>Xi; R36/37/38</td>
<td>See Section 16 for the full text of the H statements declared above.</td>
<td>[1]</td>
</tr>
</tbody>
</table>

Date of issue/Date of revision: 24 February 2023
SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type
[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact: No known significant effects or critical hazards.
Inhalation: No known significant effects or critical hazards.
Skin contact: No known significant effects or critical hazards.
Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: No specific data.
Inhalation: No specific data.
Skin contact: No specific data.
Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments: No specific treatment.

Date of issue/Date of revision: 24 February 2023
### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

| Suitable extinguishing media | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | None known. |

#### 5.2 Special hazards arising from the substance or mixture

| Hazards from the substance or mixture | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Hazardous combustion products | Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides |

#### 5.3 Advice for firefighters

| Special precautions for fire-fighters | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Special protective equipment for fire-fighters | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

| For non-emergency personnel | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. |
| For emergency responders | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |

#### 6.2 Environmental precautions

| Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

#### 6.3 Methods and material for containment and cleaning up

| Small spill | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Large spill | Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. |

#### 6.4 Reference to other sections

See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

Date of issue/Date of revision: 24 February 2023
SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures

Advice on general occupational hygiene

Put on appropriate personal protective equipment (see Section 8).

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s) Recommendations

Industrial sector specific solutions

Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels

No DELs available.

Predicted effect concentrations

No PECs available.

8.2 Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Date of issue/Date of revision: 24 February 2023
SECTION 8: Exposure controls/personal protection

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety eyewear complying with an approved standard should be worn when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state: Liquid.
Colour: Cyan
Odour: Faint odour.
Odour threshold: Not available.
pH: 7 to 8.5
Melting point/freezing point: 0°C
Initial boiling point and boiling range: Not available.

Flash point: [Product does not sustain combustion.]
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Upper/lower flammability or explosive limits: Not available.
Vapour pressure: Not available.
Vapour density: Not available.
Relative density: Not available.

Solubility(ies): Not available.
Partition coefficient: n-octanol/water: Not available.
Auto-ignition temperature: Not available.
SECTION 9: Physical and chemical properties

- Decomposition temperature: Not available.
- Viscosity: Not available.
- Explosive properties: Not available.
- Oxidising properties: Not available.

9.2 Other information
No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity: No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability: The product is stable.

10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid: No specific data.

10.5 Incompatible materials: No specific data.

10.6 Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyan Ink</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>2-pyrrolidone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>328 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Acute toxicity estimates: Not available.

Irritation/Corrosion: Conclusion/Summary: Not available.

Sensitiser: Conclusion/Summary: Not available.

Mutagenicity: Conclusion/Summary: Not available.

Carcinogenicity: Conclusion/Summary: Not available.

Reproductive toxicity: Conclusion/Summary: Not available.

Teratogenicity: Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure): Not available.
SECTION 11: Toxicological information

### Product/ingredient name

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-hexane-1,2-diol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

- **Skin contact**: No specific data.
- **Inhalation**: No specific data.
- **Ingestion**: No specific data.
- **Eye contact**: No specific data.

### Potential acute health effects

- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Eye contact**: No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- **Inhalation**: No specific data.
- **Ingestion**: No specific data.
- **Skin contact**: No specific data.
- **Eye contact**: No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

#### Long term exposure

- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

### Potential chronic health effects

Not available.

- **Conclusion/Summary**: Not available.
- **General**: No known significant effects or critical hazards.
- **Carcinogenicity**: No known significant effects or critical hazards.
- **Mutagenicity**: No known significant effects or critical hazards.
- **Teratogenicity**: No known significant effects or critical hazards.
- **Developmental effects**: No known significant effects or critical hazards.
- **Fertility effects**: No known significant effects or critical hazards.
- **Other information**: Not available.

SECTION 12: Ecological information

#### 12.1 Toxicity

- **Conclusion/Summary**: Not available.

#### 12.2 Persistence and degradability

- **Conclusion/Summary**: Not available.

Date of issue/Date of revision: 24 February 2023
SECTION 12: Ecological information

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
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</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>-0.71</td>
<td>3.16</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

- Soil/water partition coefficient (K<sub>OC</sub>) : Not available.
- Mobility : Not available.

12.5 Results of PBT and vPvB assessment

- PBT : Not applicable.
- vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

- Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

- Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

Date of issue/Date of revision : 24 February 2023
SECTION 14: Transport information

14.5 Environmental hazards

<table>
<thead>
<tr>
<th>Additional information</th>
<th>No.</th>
<th>No.</th>
<th>No.</th>
<th>No.</th>
</tr>
</thead>
</table>

14.6 Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation
Substances of very high concern
None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Not applicable.

Other EU regulations

Europe inventory: All ingredients are listed on the European Inventory of Existing Commercial Substances (EINECS) list, have been registered on the European List of New Chemical Substances (ELINCS), or are exempt.

Black List Chemicals: Not listed
Priority List Chemicals: Not listed
Integrated pollution prevention and control list (IPPC) - Air: Not listed
Integrated pollution prevention and control list (IPPC) - Water: Not listed

International regulations lists

AICS (Australia): All ingredients are listed in Australian Inventory of Chemical Substances (AICS), have been registered, or are exempt.

China inventory (IECSC): All ingredients are listed on the Chinese inventory (IECSC) or are exempt.

DSL/NDSL: All ingredients are listed on the Canadian Domestic Substances List (DSL), have been registered on the Non-Domestic Substances List (NDSL), or are exempt.

ENCS (Japan): All ingredients are listed on the Japanese Existing and New Chemical Substances (ENCS) list, have been registered, or are exempt.

Philippines inventory (PICCS): All ingredients are listed on the Philippines Inventory (PICCS) or are exempt.

Korea inventory (KECI): All ingredients are listed on the Korean Existing Chemicals List (ECL), have been registered, or are exempt.

Date of issue/Date of revision: 24 February 2023
**SECTION 15: Regulatory information**

**United States inventory (TSCA 8b)**
- All ingredients are listed on the Toxic Substances Control Act (TSCA) inventory, have been registered, or are exempt.
- Chemical Weapons Convention List Schedule I Chemicals: Not listed
- Chemical Weapons Convention List Schedule II Chemicals: Not listed
- Chemical Weapons Convention List Schedule III Chemicals: Not listed

**15.2 Chemical Safety Assessment**
- This product contains substances for which Chemical Safety Assessments are still required.

**SECTION 16: Other information**

**Abbreviations and acronyms**
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

**Key literature references and sources for data**
- Not available.

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

**Full text of abbreviated H statements**
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

**Full text of classifications [CLP/GHS]**
- Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4
- Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
- Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
- STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

**Full text of abbreviated R phrases**
- R22- Harmful if swallowed.
- R36/37/38- Irritating to eyes, respiratory system and skin.

**Date of issue/ Date of revision**
- 24 February 2023

**Notice to reader**
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**Date of issue/Date of revision**
- 24 February 2023
SAFETY DATA SHEET
Magenta Ink PN: 53376

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

1.1 Product identifier
Product name: Magenta Ink PN: 53376
Description of the product type: Part number:

| Magenta Ink | 53376 |

REACH Status: Not available.
Product type: Liquid.

1.2 Relevant identified uses of the substance or mixture and uses advised against
Product use: Inkjet printer
Area of application: Consumer applications.

1.3 Details of the supplier of the safety data sheet
Lexmark International, Inc.
740 West New Circle Road
Lexington, Ky 40550

e-mail address of person responsible for this SDS: rcassidy@lexmark.com
Only representative: Environ Sterling House
The Bourse, Boar Leeds,
L5I 5EQ, United Kingdom
e-mail address of person responsible for this SDS: sbullock@uk.environcorp.com
Emergency telephone number (with hours of operation): +44 (0) 113 245 7552

1.4 Emergency telephone number
Supplier
Telephone number:
Informations: 1-859-232-3000
Emergency: 1-859-232-3333
ChemTel: US/Canada/Puerto Rico: 1-800-255-3924
International: 1-813-248-0585
(Collect calls accepted) Contract # MIS 0007054

Hours of operation: 24/7

Date of issue/Date of revision: 24 February 2023
### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Product definition**: Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Not classified.

**Ingredients of unknown toxicity**: Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 4%

**Ingredients of unknown ecotoxicity**: Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 10%

**Classification according to Directive 1999/45/EC [DPD]**

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification**: Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

**Hazard pictograms**: Not applicable.

**Signal word**: No signal word.

**Hazard statements**: No known significant effects or critical hazards.

**Precautionary statements**

- **Prevention**: Not applicable.
- **Response**: Not applicable.
- **Storage**: Not applicable.
- **Disposal**: Not applicable.

**Hazardous ingredients**: Not applicable.

**Supplemental label elements**: Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

#### 2.3 Other hazards

**Other hazards which do not result in classification**: None known.

### SECTION 3: Composition/information on ingredients

**Substance/mixture**: Mixture

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>EC: 210-483-1, CAS: 616-45-5</td>
<td>≥5 - &lt;10</td>
<td>Xn; R22</td>
</tr>
<tr>
<td>DL-hexane-1,2-diol</td>
<td>EC: 230-029-6, CAS: 6920-22-5</td>
<td>≥3 - &lt;5</td>
<td>Xi; R36/37/38</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>Xn; R22</td>
<td>Acute Tox. 4, H302</td>
<td>[1]</td>
</tr>
<tr>
<td></td>
<td>Aquatic Chronic 3, H412</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin Irrit. 2, H315</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eye Irrit. 2, H319</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STOT SE 3, H335</td>
<td></td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the R-phrases declared above.

See Section 16 for the full text of the H statements declared above.

**Date of issue/Date of revision**: 24 February 2023
SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type
[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact: No known significant effects or critical hazards.

Inhalation: No known significant effects or critical hazards.

Skin contact: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact: No specific data.

Inhalation: No specific data.

Skin contact: No specific data.

Ingestion: No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments: No specific treatment.

Date of issue/Date of revision: 24 February 2023
SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture
Hazards from the substance or mixture: In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products: Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- nitrogen oxides

5.3 Advice for firefighters
Special precautions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up
Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.
SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

**Protective measures**

Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene**

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s) Recommendations

Industrial sector specific solutions

Not available.

No exposure limit value known.

**Recommended monitoring procedures**

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Derived effect levels**

No DELs available.

**Predicted effect concentrations**

No PECs available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

**Occupational exposure limits**

No exposure limit value known.

**Recommended monitoring procedures**

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

Date of issue/Date of revision: 24 February 2023
SECTION 8: Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be worn when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection
Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance
Physical state : Liquid.
Colour : Magenta
Odour : Faint odour.
Odour threshold : Not available.
pH : 7 to 8.5
Melting point-freezing point : 0°C
Initial boiling point and boiling range : Not available.
Flash point : [Product does not sustain combustion.]
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Upper/lower flammability or explosive limits : Not available.
Vapour pressure : Not available.
Vapour density : Not available.
Relative density : Not available.
Solubility(ies) : Not available.
Partition coefficient: n-octanol/water : Not available.
Auto-ignition temperature : Not available.

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Magenta Ink

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - United Kingdom (UK)

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<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>Oxidising properties</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

No specific data.

10.5 Incompatible materials

No specific data.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>328 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>3904.8 mg/kg</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

Conclusion/Summary: Not available.

Sensitiser

Conclusion/Summary: Not available.

Mutagenicity

Conclusion/Summary: Not available.

Carcinogenicity

Conclusion/Summary: Not available.

Reproductive toxicity

Conclusion/Summary: Not available.

Teratogenicity

Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure)

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SECTION 11: Toxicological information

### Specific target organ toxicity (repeated exposure)
Not available.

### Aspiration hazard
Not available.

### Information on the likely routes of exposure
Not available.

### Potential acute health effects
- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin contact**: No known significant effects or critical hazards.
- **Eye contact**: No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics
- **Inhalation**: No specific data.
- **Ingestion**: No specific data.
- **Skin contact**: No specific data.
- **Eye contact**: No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

#### Long term exposure
- **Potential immediate effects**: Not available.
- **Potential delayed effects**: Not available.

### Potential chronic health effects
Not available.

#### Conclusion/Summary
- No known significant effects or critical hazards.

#### General
- No known significant effects or critical hazards.

#### Carcinogenicity
- No known significant effects or critical hazards. Toner is negative (nonmutagenic) in the Ames assay.

#### Mutagenicity
- No known significant effects or critical hazards.

#### Teratogenicity
- No known significant effects or critical hazards.

#### Developmental effects
- No known significant effects or critical hazards.

#### Fertility effects
- No known significant effects or critical hazards.

#### Other information
- Not available.

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**Date of issue/Date of revision**: 24 February 2023

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**Product/ingredient name** | **Category** | **Route of exposure** | **Target organs**
--- | --- | --- | ---
DL-hexane-1,2-diol | Category 3 | Not applicable. | Respiratory tract irritation

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**Magenta Ink**

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - United Kingdom (UK)
SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>Acute EC50 13210 μg/l Fresh water</td>
<td>Daphnia - Daphnia pulex - Neonate</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

12.2 Persistence and degradability

Conclusion/Summary: Not available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP&lt;sub&gt;ow&lt;/sub&gt;</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>-0.71</td>
<td>3.16</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>): Not available.

Mobility: Not available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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SECTION 14: Transport information

<table>
<thead>
<tr>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation
Substances of very high concern
None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Not applicable.

Other EU regulations

Europe inventory: All ingredients are listed on the European Inventory of Existing Commercial Substances (EINECS) list, have been registered on the European List of New Chemical Substances (ELINCS), or are exempt.

Black List Chemicals: Not listed
Priority List Chemicals: Not listed
Integrated pollution prevention and control list (IPPC) - Air: Not listed
Integrated pollution prevention and control list (IPPC) - Water: Not listed

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Magenta Ink

SECTION 15: Regulatory information

International regulations lists

| AICS (Australia) | Not determined. |
| China inventory (IECSC) | Not determined. |
| DSL/NDSL | Not determined. |
| ENCS (Japan) | Not determined. |
| Philippines inventory (PICCS) | Not determined. |
| Korea inventory (KECI) | Not determined. |
| United States inventory (TSCA 8b) | All ingredients are listed on the Toxic Substances Control Act (TSCA) inventory, have been registered, or are exempt. |

Chemical Weapons Convention List Schedule I Chemicals | Not listed |

Chemical Weapons Convention List Schedule II Chemicals | Not listed |

Chemical Weapons Convention List Schedule III Chemicals | Not listed |

15.2 Chemical Safety Assessment | This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EIH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Key literature references and sources for data

Regulation (EC) No. 1272/2008 [CLP]
International transport regulations
Occupational exposure limits

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4
Aquatic Chronic 3, H412 LONG-TERM AQUATIC HAZARD - Category 3
Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2
STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Full text of abbreviated R phrases

R22- Harmful if swallowed.
R36/37/38- Irritating to eyes, respiratory system and skin.

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11/12
SECTION 16: Other information

**Full text of classifications [DSD/DPD]**
- Xn - Harmful
- Xi - Irritant

**Date of issue/ Date of revision**
- 24 February 2023

**Date of previous issue**
- No previous validation

**Version**
- 1

**Notice to reader**
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Date of issue/Date of revision : 24 February 2023
SAFETY DATA SHEET

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

1.1 Product identifier
- **Product name**: Yellow Ink PN: 53376
- **Description of the product type**: Yellow Ink
- **Part number**: 53376

1.2 Relevant identified uses of the substance or mixture and uses advised against
- **Product use**: Consumer applications
- **Area of application**: Inkjet printer

1.3 Details of the supplier of the safety data sheet
- **Lexmark International, Inc.**
  740 West New Circle Road
  Lexington, Ky 40550
- **e-mail address of person responsible for this SDS**: rcassidy@lexmark.com
- **Only representative**: Environ Sterling House
  The Bourse, Boar Leeds,
  LS1 5EQ, United Kingdom
- **e-mail address of person responsible for this SDS**: sbullock@uk.environcorp.com
- **Emergency telephone number (with hours of operation)**: +44 (0) 113 245 7552

1.4 Emergency telephone number
- **Supplier**
  - **Telephone number**:
    - Informations: 1-859-232-3000
    - Emergency: 1-859-232-3333
    - ChemTel: US/Canada/Puerto Rico 1-800-255-3924
      - International 1-813-248-0585
      - (Collect calls accepted) Contract # MIS 0007054
- **Hours of operation**: 24/7


**Date of issue/Date of revision**: 24 February 2023
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Not classified.

Ingredients of unknown toxicity : Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 8.8%

Ingredients of unknown ecotoxicity : Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 8.8%

Classification according to Directive 1999/45/EC [DPD]
The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms : Not applicable.

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazardous ingredients : Not applicable.

Supplemental label elements : Contains 2,2',2'''-nitrilotriethanol. May produce an allergic reaction.

2.3 Other hazards

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>Identifiers</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>EC: 210-483-1, CAS: 616-45-5</td>
<td>≥5 - &lt;10</td>
<td>Xn; R22</td>
</tr>
<tr>
<td>DL-hexane-1,2-diol</td>
<td>EC: 230-029-6, CAS: 6920-22-5</td>
<td>≥3 - &lt;5</td>
<td>Xi; R36/37/38</td>
</tr>
</tbody>
</table>

See Section 16 for the full text of the R-phrases declared above.

See Section 16 for the full text of the H statements declared above.

Date of issue/Date of revision : 24 February 2023
SECTION 3: Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments : No specific treatment.

Date of issue/Date of revision : 24 February 2023
SECTION 5: Firefighting measures

5.1 Extinguishing media

| Suitable extinguishing media | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | None known. |

5.2 Special hazards arising from the substance or mixture

| Hazards from the substance or mixture | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Hazardous combustion products | Decomposition products may include the following materials: carbon dioxide, carbon monoxide, nitrogen oxides, sulfur oxides, metal oxide/oxides |

5.3 Advice for firefighters

| Special precautions for fire-fighters | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Special protective equipment for fire-fighters | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

| For non-emergency personnel | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. |
| For emergency responders | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |

6.2 Environmental precautions

| | Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

6.3 Methods and material for containment and cleaning up

| Small spill | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| Large spill | Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spills into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. |

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SECTION 6: Accidental release measures

6.4 Reference to other sections
See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures
Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities
Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations
Not available.

Industrial sector specific solutions
Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits
No exposure limit value known.

Recommended monitoring procedures
If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived effect levels
No DELs available.

Predicted effect concentrations
No PECs available.

8.2 Exposure controls

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SECTION 8: Exposure controls/personal protection

**Appropriate engineering controls**: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

**Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection**: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Environmental exposure controls**: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

- **Physical state**: Liquid.
- **Colour**: Yellow.
- **Odour**: Faint odour.
- **Odour threshold**: Not available.
- **pH**: 7 to 8.5
- **Melting point/freezing point**: 0°C
- **Initial boiling point and boiling range**: Not available.
- **Flash point**: [Product does not sustain combustion.]
- **Evaporation rate**: Not available.
- **Flammability (solid, gas)**: Not available.
- **Upper/lower flammability or explosive limits**: Not available.
- **Vapour pressure**: Not available.
- **Vapour density**: Not available.
- **Relative density**: Not available.
- **Solubility(ies)**: Not available.

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SECTION 9: Physical and chemical properties

- Partition coefficient: n-octanol/water: Not available.
- Auto-ignition temperature: Not available.
- Decomposition temperature: Not available.
- Viscosity: Not available.
- Explosive properties: Not available.
- Oxidising properties: Not available.

9.2 Other information
No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity: No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability: The product is stable.
- 10.3 Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid: No specific data.
- 10.5 Incompatible materials: No specific data.
- 10.6 Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>328 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Acute toxicity estimates

<table>
<thead>
<tr>
<th>Route</th>
<th>ATE value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>5206.3 mg/kg</td>
</tr>
</tbody>
</table>

Irritation/Corrosion

Conclusion/Summary: Not available.

Sensitiser

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Route of exposure</th>
<th>Species</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow Ink</td>
<td>skin</td>
<td>Rabbit</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>

Conclusion/Summary: Not available.

Mutagenicity

Conclusion/Summary: Not available.

Carcinogenicity

Conclusion/Summary: Not available.

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SECTION 11: Toxicological information

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL-hexane-1,2-diol</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Eye contact : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.
Ingestion : No specific data.
Skin contact : No specific data.
Eye contact : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards. Toner is negative (nonmutagenic) in the Ames assay.

Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.
Other information : Not available.

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SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>Acute EC50 13210 μg/l Fresh water</td>
<td>Daphnia - Daphnia pulex - Neonate</td>
<td>48 hours</td>
</tr>
</tbody>
</table>

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-pyrrolidone</td>
<td>-0.71</td>
<td>3.16</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.
SECTION 14: Transport information

<table>
<thead>
<tr>
<th></th>
<th>ADR/RID</th>
<th>ADN</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.3 Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14.5 Environmental hazards</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Additional information</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user: Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

Other EU regulations

Europe inventory: All ingredients are listed on the European Inventory of Existing Commercial Substances (EINECS) list, have been registered on the European List of New Chemical Substances (ELINCS), or are exempt.

Black List Chemicals: Not listed

Priority List Chemicals: Not listed

Integrated pollution prevention and control list (IPPC) - Air

Integrated pollution prevention and control list (IPPC) - Water

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SECTION 15: Regulatory information

International regulations lists

- **AICS (Australia)**: All ingredients are listed in Australian Inventory of Chemical Substances (AICS), have been registered, or are exempt.
- **China inventory (IECSC)**: All ingredients are listed on the Chinese inventory (IECSC) or are exempt.
- **DSL/NDSL**: All ingredients are listed on the Canadian Domestic Substances List (DSL), have been registered on the Non-Domestic Substances List (NDSL), or are exempt.
- **ENCS (Japan)**: All ingredients are listed on the Japanese Existing and New Chemical Substances (ENCS) list, have been registered, or are exempt.
- **Philippines inventory (PICCS)**: All ingredients are listed on the Philippines Inventory (PICCS) or are exempt.
- **Korea inventory (KECI)**: All ingredients are listed on the Korean Existing Chemicals List (ECL), have been registered, or are exempt.
- **United States inventory (TSCA 8b)**: All ingredients are listed on the Toxic Substances Control Act (TSCA) inventory, have been registered, or are exempt.
  - **Chemical Weapons Convention List Schedule I Chemicals**: Not listed
  - **Chemical Weapons Convention List Schedule II Chemicals**: Not listed
  - **Chemical Weapons Convention List Schedule III Chemicals**: Listed

15.2 Chemical Safety Assessment: This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

- Indicates information that has changed from previously issued version.

Abbreviations and acronyms:

- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

Key literature references and sources for data:

- Regulation (EC) No. 1272/2008 [CLP]
- International transport regulations
- Occupational exposure limits

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements:

- H302  Harmful if swallowed.
- H315  Causes skin irritation.
- H319  Causes serious eye irritation.
- H335  May cause respiratory irritation.
- H412  Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]:

- Acute Tox. 4, H302  ACUTE TOXICITY (oral) - Category 4
- Aquatic Chronic 3, H412  LONG-TERM AQUATIC HAZARD - Category 3
- Eye Irrit. 2, H319  SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
- Skin Irrit. 2, H315  SKIN CORROSION/IRRITATION - Category 2
- STOT SE 3, H335  SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

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SECTION 16: Other information

Full text of abbreviated R phrases: R22- Harmful if swallowed.  
R36/37/38- Irritating to eyes, respiratory system and skin.

Full text of classifications [DSD/DPD]: Xn - Harmful  
Xi - Irritant

Date of issue/ Date of revision: 24 February 2023

Date of previous issue: No previous validation

Version: 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.