Test Report
No. 5006465-CH20  Date: February 9, 2023  Page 1 of 9

Samtec Inc.
520 Park East Blvd
New Albany, IN 47150
United States

The following sample(s) was/were submitted and identified by/on behalf of the client as:
Discrete Cable – Color Blue – FEP outer
Insulation Jacket – Copper Conductors with Tin
Plating
Country of Destination: USA
Model/ Part No.: DWC-T

Sample Received Date: 01/19/2023
Testing Period: 01/24/2023 – 02/06/2023

Test Requested: Please refer to the result summary.

Test Method & Results: Please refer to next page(s).

Result Summary:

<table>
<thead>
<tr>
<th>Test(s) Requested</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Halogen Content</td>
<td>See Test Results</td>
</tr>
</tbody>
</table>

Signed for and on behalf of SGS North America, Inc.  Prepared By:

Brian Murphy
Laboratory supervisor, Chemistry laboratory

Suzie Banik
Technical Report Writer, Chemistry Laboratory

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SGS North America Inc.  Consumer Testing Services 291 Fairfield Ave, Fairfield, NJ 07004, USA  t (973) 575-5252  f (973) 575-7175  www.sgs.com

<table>
<thead>
<tr>
<th>Test Item(s):</th>
<th>Unit</th>
<th>Test Method</th>
<th>Results</th>
<th>MDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (Cd)</td>
<td>mg/kg</td>
<td>With reference to IEC 62321-5:2013 (Determination of Cd and Pb by ICP-OES and/or ICP-MS)</td>
<td>ND</td>
<td>2</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>mg/kg</td>
<td>With reference to IEC 62321-4:2013+A1:2017 (Determination of Hg by ICP-OES and/or ICP-MS)</td>
<td>ND</td>
<td>2</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>mg/kg</td>
<td>With reference to IEC 62321-7:2:2017 (Determination of CrVI by UV-Vis)</td>
<td>ND*</td>
<td>8</td>
</tr>
</tbody>
</table>

### Sum of PBBs mg/kg
- Monobromobiphenyl mg/kg
- Dibromobiphenyl mg/kg
- Tribromobiphenyl mg/kg
- Tetrabromobiphenyl mg/kg
- Pentabromobiphenyl mg/kg
- Hexabromobiphenyl mg/kg
- Heptabromobiphenyl mg/kg
- Octabromobiphenyl mg/kg
- Nonabromobiphenyl mg/kg
- Decabromobiphenyl mg/kg

### Sum of PBDEs mg/kg
- Monobromodiphenyl ether mg/kg
- Dibromodiphenyl ether mg/kg
- Tribromodiphenyl ether mg/kg
- Tetrabromodiphenyl ether mg/kg
- Pentabromodiphenyl ether mg/kg
- Hexabromodiphenyl ether mg/kg
- Heptabromodiphenyl ether mg/kg
- Octabromodiphenyl ether mg/kg
- Nonabromodiphenyl ether mg/kg
- Decabromodiphenyl ether mg/kg

**Bis (2-ethylhexyl) Phthalate (DEHP) mg/kg**

**Butyl Benzyl Phthalate (BBP) mg/kg**

**Dibutyl Phthalate (DBP) mg/kg**

**Diisobutyl Phthalate (DIBP) mg/kg**

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Test Item(s): | Unit | Test Method | Results | MDL |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
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</tr>
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<tr>
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<td>mg/kg</td>
<td>With reference to IEC 62321-5:2013 (Determination of Cd and Pb by ICP-OES and/or ICP-MS)</td>
<td>ND</td>
<td>2</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>mg/kg</td>
<td>With reference to IEC 62321-4:2013+A1:2017 (Determination of Hg by ICP-OES and/or ICP-MS)</td>
<td>ND</td>
<td>2</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>mg/kg</td>
<td>With reference to IEC 62321-7-2:2017 (Determination of CrVI by UV-Vis)</td>
<td>ND*</td>
<td>8</td>
</tr>
</tbody>
</table>

Sample Description:
1. Bag 20 – Blue Outer FEP Jacket
2. Bag 20 – Tin Plated Copper Conductor

Note:
(a) mg/kg = ppm; 0.1wt% = 1000ppm
(b) ND= not detected
(c) MDL = Method Detection Limit
(d) - = not regulated
(e) * = Total Chromium analysis by ICP-MS and/or ICP-OES was not detected in submitted sample. Therefore, Hexavalent Chromium determination using UV-Visible Spectroscopy was not performed.
2. Halogen Content

Test Method(s): With reference to IEC 62321-3-2:2020 “Determination of certain substances in electrotechnical products – Part 3-2: Screening – Fluorine, bromine and chlorine in polymer and electronics by combustion-ion chromatography (C-IC), and/or with reference to BS EN 14582:2016 – Analysis was performed by ion chromatography.

<table>
<thead>
<tr>
<th>Test Item(s):</th>
<th>Unit</th>
<th>Results (ppm)</th>
<th>Reporting Limit (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluorine (F)</td>
<td>mg/kg</td>
<td>213000</td>
<td>50</td>
</tr>
<tr>
<td>Chlorine (Cl)</td>
<td>mg/kg</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Bromine (Br)</td>
<td>mg/kg</td>
<td>ND</td>
<td>50</td>
</tr>
<tr>
<td>Iodine (I)</td>
<td>mg/kg</td>
<td>ND</td>
<td>50</td>
</tr>
</tbody>
</table>

Sample Description:
1. Bag 20 – Blue Outer FEP Jacket

Note:
1. ppm = parts per million
2. mg/kg = ppm
3. 1% = 10000 ppm (mg/kg)
4. ND = Not Detected, reported when the reading is less than the reporting limit value.
Flowchart for RoHS:

```
Flowchart for RoHS:

<table>
<thead>
<tr>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting / Preparation</td>
</tr>
<tr>
<td>Weigh Sample</td>
</tr>
<tr>
<td>Cr\textsuperscript{6+} (See note 2)</td>
</tr>
<tr>
<td>Solvent Extraction</td>
</tr>
<tr>
<td>Concentrate / Dilute extracted solution</td>
</tr>
<tr>
<td>Clean-up with florisil column</td>
</tr>
<tr>
<td>Solution</td>
</tr>
<tr>
<td>GC-MS</td>
</tr>
<tr>
<td>PBBs, PBDEs</td>
</tr>
<tr>
<td>Acid Digestion with appropriate acid</td>
</tr>
<tr>
<td>Filtration</td>
</tr>
<tr>
<td>Solution</td>
</tr>
<tr>
<td>Residue</td>
</tr>
<tr>
<td>a. Dry Ashing</td>
</tr>
<tr>
<td>b. Dissolution by HNO\textsubscript{3}/HCl</td>
</tr>
<tr>
<td>ICP-MS</td>
</tr>
<tr>
<td>Alkaline Extraction</td>
</tr>
<tr>
<td>Filtration, pH, Clean-up</td>
</tr>
<tr>
<td>Add reagent for color development</td>
</tr>
<tr>
<td>UV-VIS</td>
</tr>
<tr>
<td>Filtration</td>
</tr>
<tr>
<td>Pb, Cd, Hg, Cr</td>
</tr>
</tbody>
</table>
```

Note:
1. The Cr, Cd, Pb and Hg contents test on polymeric samples were dissolved totally by pre-conditioning method according to above flow chart.
2. Cr\textsuperscript{6+} is performed only when total Cr is detected.
Flowchart for Phthalates:

1. Cutting/Preparation
2. Weighing
3. Solvent Extraction
4. Concentrate/Dilute extracted solution
5. Filtration
6. GC-MS

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Flow Chart of Halogen Test by Combustion Ion Chromatography:

1. Sample cutting / preparation
2. Sample measurement
3. Combustion in furnace
4. Dissolved in absorption solvent
5. Analyzed by ion chromatography
6. Data analysis
Halogen Testing Flow Chart (EN 14582):

1. Sample cutting / preparation
2. Sample measurement
3. Combustion in Oxygen Bomb
4. Dissolved in absorption
5. Filtration
6. Analyzed by Ion Chromatography
7. Data Analysis

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Sample Photo(s):

Discrete Cable – Blue DWC-T

SGS authenticates the photo(s) on the original report only

*** End of Report ***