

## Test Report

Applicant: Leading Technologies  
1153 Industrial Park Rd,  
Leechburg, PA 15656, USA

Number : TWNC01012111

Issue Date : Aug 27, 2021

Sample Description:

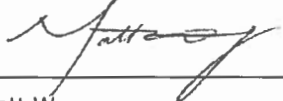
One (1) Group of Submitted Samples Said To Be :

Sample Description : A  
Date Sample Received : Aug 18, 2021  
Date Test Started : Aug 18, 2021

Test Conducted:

As requested by the applicant, for details please refer to attached pages.

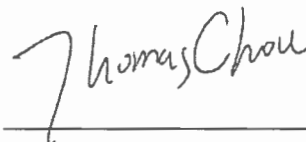
Authorized By:  
On behalf of Intertek Testing Services  
Taiwan Limited



Matt Wang  
Director



Signed by:



Thomas Chou  
Manager



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Test Conducted :

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Test Result Summary:

| Test Item                              | Unit                | Test Method  | Result        | RL   |
|--|---------------------|--|---------------|------|
|  |                     |  | Coppery metal |      |
| <b>Heavy Metal</b>                     |                     |  |               |      |
| Cadmium (Cd) Content                   | ppm                 | With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.                                       | ND            | 2    |
| Lead (Pb) Content                      | ppm                 | With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES.                                       | 15            | 2    |
| Mercury (Hg) Content                   | ppm                 | With reference to IEC 62321-4:2013+AMD1:2017, by microwave or acid digestion and determined by ICP-OES.                              | ND            | 2    |
| Beryllium (Be) Content                 | ppm                 | With reference to USEPA 3052, by microwave digestion and determined by ICP-OES.  | ND            | 2    |
| Antimony (Sb) Content                  | ppm                 | With reference to USEPA 3052, by microwave digestion and determined by ICP-OES.  | ND            | 2    |
| Chromium VI (Cr(VI)) Content @         | µg/ cm <sup>2</sup> | With reference to IEC 62321-7-1: 2015, by boiling water extraction and determined by UV-Vis Spectrophotometer or visual observation. | Negative      | 0.10 |
| <b>Polybrominated Biphenyls (PBBs)</b> |                     |  |               |      |
| Monobrominated Biphenyls (MonoBB)      | ppm                 | With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | ND            | 5    |
| Dibrominated Biphenyls (DiBB)          | ppm                 |  | ND            | 5    |
| Tribrominated Biphenyls (TriBB)        | ppm                 |  | ND            | 5    |
| Tetrabrominated Biphenyls (TetraBB)    | ppm                 |  | ND            | 5    |
| Pentabrominated Biphenyls (PentaBB)    | ppm                 |  | ND            | 5    |
| Hexabrominated Biphenyls (HexaBB)      | ppm                 |  | ND            | 5    |
| Heptabrominated Biphenyls (HeptaBB)    | ppm                 |  | ND            | 5    |
| Octabrominated Biphenyls (OctaBB)      | ppm                 |  | ND            | 5    |
| Nonabrominated Biphenyls (NonaBB)      | ppm                 |  | ND            | 5    |
| Decabrominated Biphenyl (DecaBB)       | ppm                 |  | ND            | 5    |



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| Test Item                                     | Unit | Test Method  | Result        | RL |
|---|------|--|---------------|----|
|   |      |  | Coppery metal |    |
| <b>Polybrominated Diphenyl Ethers (PBDEs)</b> |      |  |               |    |
| Monobrominated Diphenyl Ethers (MonoBDE)      | ppm  | With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | ND            | 5  |
| Dibrominated Diphenyl Ethers (DiBDE)          | ppm  |  | ND            | 5  |
| Tribrominated Diphenyl Ethers (TriBDE)        | ppm  |  | ND            | 5  |
| Tetrabrominated Diphenyl Ethers (TetraBDE)    | ppm  |  | ND            | 5  |
| Pentabrominated Diphenyl Ethers (PentaBDE)    | ppm  |  | ND            | 5  |
| Hexabrominated Diphenyl Ethers (HexaBDE)      | ppm  |  | ND            | 5  |
| Heptabrominated Diphenyl Ethers (HeptaBDE)    | ppm  |  | ND            | 5  |
| Octabrominated Diphenyl Ethers (OctaBDE)      | ppm  |  | ND            | 5  |
| Nonabrominated Diphenyl Ethers (NonaBDE)      | ppm  |  | ND            | 5  |
| Decabrominated Diphenyl Ether (DecaBDE)       | ppm  |  | ND            | 5  |
| <b>Phthalates</b>                             |      |  |               |    |
| Di(2-ethylhexyl) Phthalate (DEHP)             | ppm  | With reference to IEC 62321-8:2017, by solvent extraction and determined by GC-MS.   | ND            | 50 |
| Dibutyl Phthalate (DBP)                       | ppm  |  | ND            | 50 |
| Benzyl Butyl Phthalate (BBP)                  | ppm  |  | ND            | 50 |
| Diisobutyl Phthalate (DIBP)                   | ppm  |  | ND            | 50 |
| <b>Halogen Content</b>                        |      |  |               |    |
| Fluorine (F)                                  | ppm  | With reference to EN 14582:2016 by combustion bomb with oxygen and determined by Ion Chromatography.                                 | ND            | 50 |
| Chlorine (Cl)                                 | ppm  |  | ND            | 50 |
| Bromine (Br)                                  | ppm  |  | ND            | 50 |
| Iodine (I)                                    | ppm  |  | ND            | 50 |

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
 ND = Not detected  
 RL = Reporting limit, quantitation limit of analyte in sample



Test Conducted :

@ The explanation of Chromium VI (Cr(VI)) analysis results

| Colorimetric result  | Qualitative Result | Explanation   |
|--|--------------------|---|
| < 0.10 µg/cm <sup>2</sup>                                  | Negative           | The result of sample is negative for Cr(VI). The sample coating is considered a non-Cr(VI) based coating.   |
| ≥ 0.10 µg/cm <sup>2</sup><br>and ≤ 0.13 µg/cm <sup>2</sup> | Inconclusive       | The result of sample is considered to be inconclusive. If addition samples are available, recommend to add trials and get the average result for the final determination.                                     |
| > 0.13 µg/cm <sup>2</sup>                                  | Positive           | The result of sample is positive for Cr(VI). The sample coating is considered to contain Cr(VI).<br>A result expresses as Positive, while not an actual value, which indicates a visual observation was used. |

Responsibility of Chemist: Melody Lee/ Vita Fu

Date Sample Received : Aug 18, 2021  
 Test Period : Aug 18, 2021 to Aug 26, 2021

RoHS Limit

| Restricted Substances                  | Limits         |
|--|----------------|
| Cadmium (Cd) content                   | 0.01% (100ppm) |
| Lead (Pb) content                      | 0.1% (1000ppm) |
| Mercury (Hg) content                   | 0.1% (1000ppm) |
| Chromium VI (Cr(VI)) content           | 0.1% (1000ppm) |
| Polybrominated Biphenyls (PBBs)        | 0.1% (1000ppm) |
| Polybrominated Diphenyl Ethers (PBDEs) | 0.1% (1000ppm) |
| Di(2-ethylhexyl) Phthalate (DEHP)      | 0.1% (1000ppm) |
| Dibutyl Phthalate (DBP)                | 0.1% (1000ppm) |
| Benzyl Butyl Phthalate (BBP)           | 0.1% (1000ppm) |
| Diisobutyl Phthalate (DIBP)            | 0.1% (1000ppm) |

The limits were quoted from Annex II of 2011/65/EU and Amendment (EU) 2015/863 for homogeneous material.



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Measurement Flowchart:

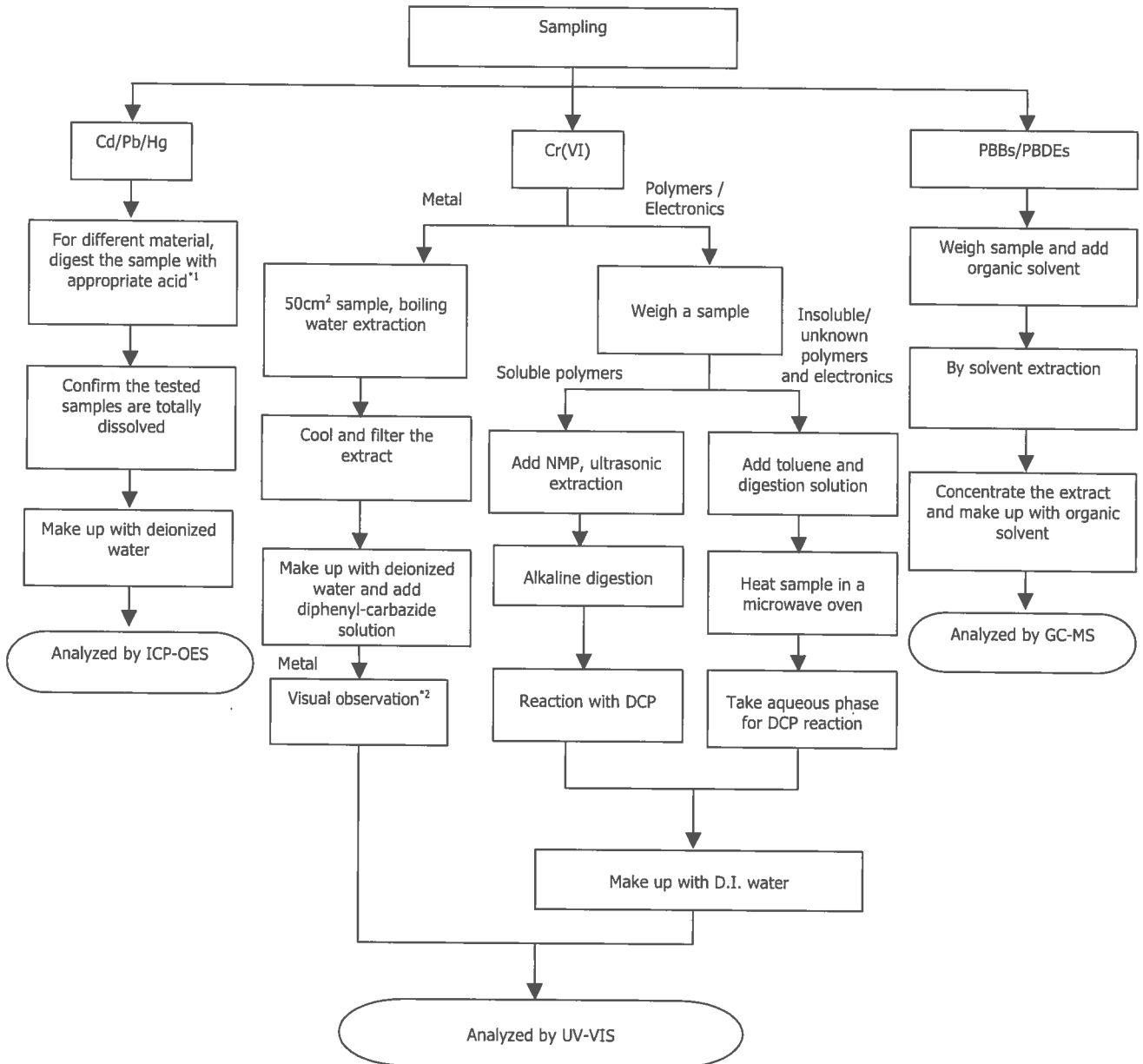
Test for Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Content

Reference Standard : Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013+AMD1:2017;

Chromium (VI): IEC 62321-7-1:2015 (boiling water extraction);

Chromium (VI): IEC 62321-7-2:2017 (solvent and alkaline extraction);

PBBs/PBDEs: IEC 62321-6:2015



Test Conducted :

Remarks:

\*1: List of Appropriate Acid :

| Material    | Acid Added for Digestion   |
|-------------|--|
| Polymers    | HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub> |
| Metals      | HNO <sub>3</sub> , HCl, HF   |
| Electronics | HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>                   |

\*2: If sample solution is significantly more intense than 0.13 µg/cm<sup>2</sup> equivalent comparison standard, Chromium VI would be determined as detected, the result of visual observation is positive.

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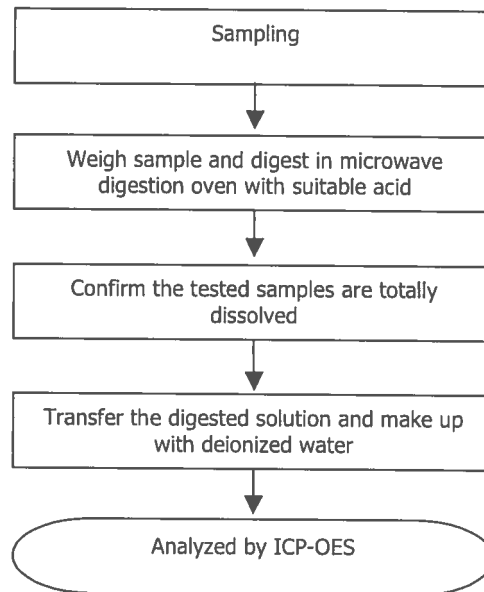


Test Conducted :

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Measurement Flowchart:

Test For Heavy Metal (Be, Sb) Content  
Reference Standard : USEPA 3052



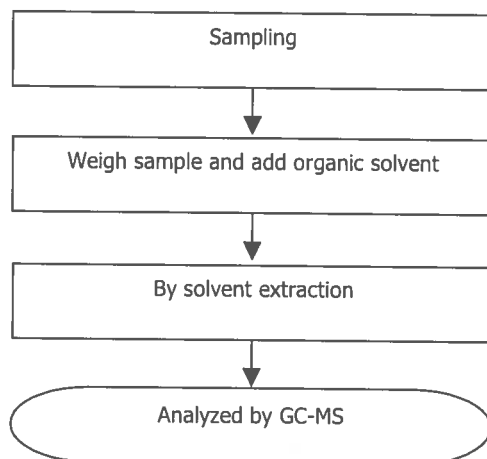
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Measurement Flowchart:

Test for Phthalates Content

Reference Method : IEC 62321-8:2017

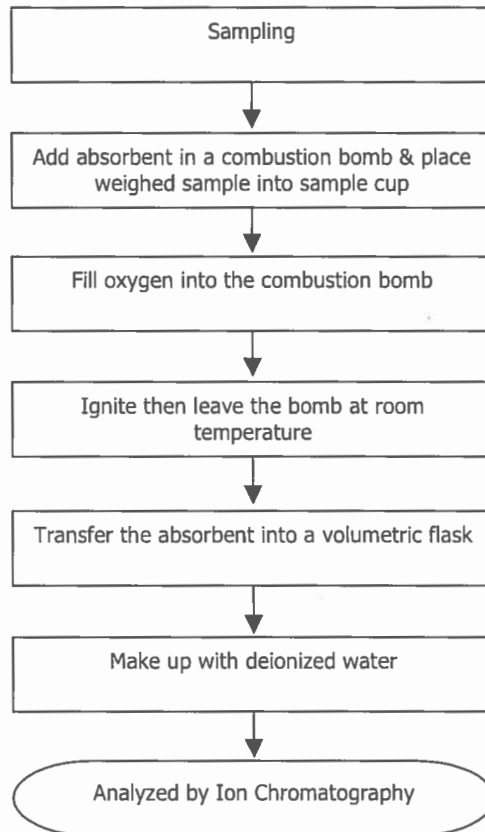




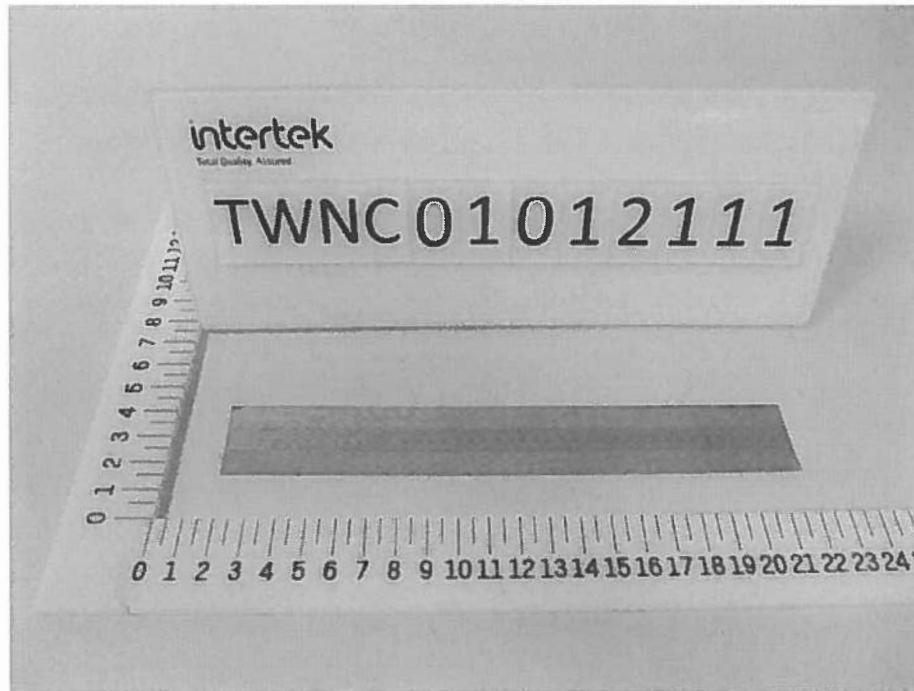
Test Conducted :

Measurement Flowchart:

Test For Halogen Content  
Reference Standard : EN 14582:2016



Sample photo:



End of Report

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