Test Report

FORMOSA PLASTICS CORPORATION
NO. 1-1, SHIH-WHA 1ST RD., LIN-YUAN DISTRICT, KAOHSIUNG CITY 832, TAIWAN (R. O. C.)

The following sample(s) was/were submitted and identified by/on behalf of the applicant as:

Sample description : Polypropylene homopolymer.
Color : Clear semi-white.
Style/Item No. : 1003, 1005, 1005N, 1009, 1020, 1020L, 1024, 1024T, 1030T, 1040,
1040F, 1040U, 1080, 1090, 1100, 1120, 1120D, 1124, 1124H, 1202F, 1202H, 1250D, 1350D, 1350R,
Material component : 100%Polypropylene.
Sample receiving date : 2020/12/30.
Testing period : 2020/12/30 - 2021/01/06.
Sample submitted by : FORMOSA PLASTICS CORPORATION

Test requested : As specified by client, with reference to RoHS 2011/65/EU Annex II and amending
directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs,
DBP, BBP, DEHP and DIBP contents in the submitted sample(s).

--- Please see the next page for test result(s) ---
FORMOSA PLASTICS CORPORATION  
NO. 1-1, SHIH-WHA 1ST RD., LIN-YUAN DISTRICT, KAOHSIUNG CITY 832, TAIWAN (R. O. C.)

Component list / List of materials

<table>
<thead>
<tr>
<th>No.</th>
<th>Component description</th>
<th>Test result(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clear semi-white pellets</td>
<td></td>
</tr>
</tbody>
</table>

Test result(s):

<table>
<thead>
<tr>
<th>Test item(s)</th>
<th>Method</th>
<th>Unit</th>
<th>RL</th>
<th>Result No.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (Cd) (CAS No.7440-43-9)</td>
<td>With reference to IEC 62321-5:2013. Analysis was performed by ICP-OES.</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
</tr>
<tr>
<td>Lead (Pb) (CAS No.7439-92-1)</td>
<td>With reference to IEC 62321-5:2013. Analysis was performed by ICP-OES.</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
</tr>
<tr>
<td>Mercury (Hg) (CAS No.7439-97-6)</td>
<td>With reference to IEC 62321-4:2013+AMD1:2017. Analysis was performed by ICP-OES.</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
</tr>
<tr>
<td>Hexavalent Chromium Cr(VI) (CAS No.18540-29-9)</td>
<td>With reference to IEC 62321-7-2:2017. Analysis was performed by UV-VIS spectrometry.</td>
<td>mg/kg</td>
<td>8</td>
<td>n.d.</td>
</tr>
<tr>
<td>Polybrominated biphenyl (PBBs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monobromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Dibromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Tribromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Tetrabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Pentabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Hexabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Heptabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Octabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Heptabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Octabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
</tbody>
</table>

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Member of the SGS Group
**Test Report**

**FORMOSA PLASTICS CORPORATION**
NO. 1-1, SHIH-WHA 1ST RD., LIN-YUAN DISTRICT, KAOSIHU CITY 832, TAIWAN (R. O. C.)

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<tr>
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<th>Method</th>
<th>Unit</th>
<th>RL</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Decabromobiphenyl</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Sum of PBBs</td>
<td>---</td>
<td>mg/kg</td>
<td>-</td>
<td>n.d.</td>
</tr>
<tr>
<td><strong>Polybrominated biphenyl ethers (PBDEs)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monobromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Dibromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Tribromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Tetrabromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Pentabromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Hexabromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Heptabromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Octabromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Nonabromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td>Decabromodiphenyl ether</td>
<td>With reference to IEC 62321-6:2015. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
</tr>
<tr>
<td><strong>Sum of PBDEs</strong></td>
<td>---</td>
<td>mg/kg</td>
<td>-</td>
<td>n.d.</td>
</tr>
<tr>
<td><strong>Phthalates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diisobutyl phthalate (DIBP) (CAS No.84-69-5)</td>
<td>With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
</tr>
<tr>
<td>Dibutyl phthalate (DBP) (CAS No.84-74-2)</td>
<td>With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
</tr>
<tr>
<td>Butyl benzyl phthalate (BBP) (CAS No.85-68-7)</td>
<td>With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
</tr>
<tr>
<td>Di(2-ethylhexyl) phthalate (DEHP) (CAS No.117-81-7)</td>
<td>With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.</td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
</tr>
</tbody>
</table>

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Member of the SGS Group Group
Test Report  
Report No.: SFW20C01491  
Report Issue Date: 2021/01/06  
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Note:
- ppm = mg/kg; 0.1% = 1000ppm  
- RL = Reporting Limit  
- n.d. = Not Detected
Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr²⁺ test method excluded)

Cutting - Preparation

Sample Measurement

Pb/Cd/Hg

Microwave digestion / Hotplate digestion

Filtration

Solution

1) Alkali fusion
2) HCl to dissolve

Residue

ABS / PC / PVC

Others

Dissolving by ultrasonication

Digesting at 150-160°C

Separating to get aqueous phase

Metal

Boiling water extraction

Cool, filter digestate through filter

Add diphenyl-carbazide for color development

Measure the absorbance at 540 nm by UV-VIS

Non-metal

Cr²⁺

Digesting at 60°C by ultrasonication

pH adjustment

Add diphenyl-carbazide for color development

Measure the absorbance at 540 nm by UV-VIS

ICP-OES
Analytical flow chart - Hexavalent Chromium Cr(VI)

Cutting - Preparation

Sample Measurement

Non-metal

ABS / PC / PVC

Dissolving by ultrasonication

Digested at 60°C by ultrasonication

pH adjustment

Add diphenyl-carbazide for color development

Measure the absorbance at 540 nm by UV-VIS

Others

Metal

Boiling water extraction

Cool, filter digestate through filter

Add diphenyl-carbazide for color development

Measure the absorbance at 540 nm by UV-VIS

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PBB/PBDE analytical FLOW CHART

1. Sample pretreatment
2. Sample extraction / Soxhlet method
3. Concentrate/Dilute Extracted solution
4. Filter
5. Analysis by GC/MS

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Analytical flow chart of phthalate content

【Test method: IEC 62321-8】

- Sample pretreatment/separation
- Sample dissolved/extracted by THF
- Dilute Extracted solution
- Analysis was performed by GC/MS
- Data
Test Report

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* The tested sample / part is marked by an arrow if it's shown on the photo. *

SFW20C01491

** End of report **