測試報告
Test Report

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by the applicant as):

<table>
<thead>
<tr>
<th>樣品名稱(Sample Name)</th>
<th>: PREPREG</th>
</tr>
</thead>
<tbody>
<tr>
<td>樣品型號(Style/Item No.)</td>
<td>: G200</td>
</tr>
</tbody>
</table>

收件日(Sample Receiving Date) : 05-Oct-2022
測試期間(Testing Period) : 05-Oct-2022 to 17-Oct-2022

測試需求(Test Requested) :
(1) 依據客戶指定，參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。(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, DIBP contents in the submitted sample(s).)

(2) 其他測試項目請見下頁。(Please refer to next pages for the other item(s).)

測試結果(Test Results) :
請參閱下頁(Please refer to following pages.)

結論(Conclusion) :
(1) 根據客戶所提供的樣品，其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863之限值要求。(Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)
測試報告
Test Report

テスト報告

測試部位敘述 (Test Part Description)

No.1  ： 黃色片狀 (YELLOW SHEET)

測試結果 (Test Results)

<table>
<thead>
<tr>
<th>測試項目 (Test Items)</th>
<th>測試方法 (Method)</th>
<th>單位 (Unit)</th>
<th>MDL</th>
<th>結果 (Result)</th>
<th>限值 (Limit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>錫 (Cd) (Cadmium (Cd)) (CAS No.: 7440-43-9)</td>
<td>參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析，(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>
<td>100</td>
</tr>
<tr>
<td>鉛 (Pb) (Lead (Pb)) (CAS No.: 7439-92-1)</td>
<td>62321-5: 2013, analysis was performed by ICP-OES.</td>
<td>mg/kg</td>
<td>2</td>
<td>6.70</td>
<td>1000</td>
</tr>
<tr>
<td>汞 (Hg) (Mercury (Hg)) (CAS No.: 7439-97-6)</td>
<td>參考IEC 62321-4: 2013+ AMD1: 2017，以感應耦合電漿發射光譜儀分析，(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>
<td>1000</td>
</tr>
<tr>
<td>六價鉻 (Hexavalent Chromium) Cr(VI) (CAS No.: 18540-29-9) (●)</td>
<td>參考IEC 62321-5: 2013, IEC 62321-7-2: 2017，以感應耦合電漿發射光譜儀、紫外光-可見光分光光度計分析，(With reference to IEC 62321-5: 2013, IEC 62321-7-2: 2017, analysis was performed by ICP-OES, UV-VIS.)</td>
<td>mg/kg</td>
<td>8</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td>一溴聯苯 (Monobromobiphenyl)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>二溴聯苯 (Dibromobiphenyl)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>三溴聯苯 (Tribromobiphenyl)</td>
<td>參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。 (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>
<td>-</td>
</tr>
<tr>
<td>四溴聯苯 (Tetrabromobiphenyl)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>五溴聯苯 (Pentabromobiphenyl)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>六溴聯苯 (Hexabromobiphenyl)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>七溴聯苯 (Heptabromobiphenyl)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>八溴聯苯 (Octabromobiphenyl)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>九溴聯苯 (Nonabromobiphenyl)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>十溴聯苯 (Decabromobiphenyl)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>多溴聯苯總和 (Sum of PBBs)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
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<tr>
<th>测试项目 (Test Items)</th>
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<th>限值 (Limit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>一溴联苯醚 (Monobromodiphenyl ether)</td>
<td>十溴联苯醚 (Decabromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>二溴联苯醚 (Dibromodiphenyl ether)</td>
<td>八溴联苯醚 (Octabromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>三溴联苯醚 (Tribromodiphenyl ether)</td>
<td>六溴联苯醚 (Hexabromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>四溴联苯醚 (Tetrabromodiphenyl ether)</td>
<td>五溴联苯醚 (Pentabromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>五溴联苯醚 (Pentabromodiphenyl ether)</td>
<td>四溴联苯醚 (Tetrabromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>六溴联苯醚 (Hexabromodiphenyl ether)</td>
<td>三溴联苯醚 (Tribromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>七溴联苯醚 (Heptabromodiphenyl ether)</td>
<td>二溴联苯醚 (Dibromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>八溴联苯醚 (Octabromodiphenyl ether)</td>
<td>九溴联苯醚 (Decabromodiphenyl ether)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>十溴联苯醚 (Decabromodiphenyl ether)</td>
<td>多溴联苯醚總和 (Sum of PBDEs)</td>
<td>mg/kg</td>
<td>-</td>
<td>n.d.</td>
<td>1000</td>
</tr>
</tbody>
</table>

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<tbody>
<tr>
<td>邻苯二甲酸丁苯酯 (BBP) (Butyl benzyl phthalate (BBP)) (CAS No.: 85-68-7)</td>
<td>参考 IEC 62321-6: 2015，以气相层析仪/质谱仪分析。 (With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)</td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td>邻苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP)) (CAS No.: 84-74-2)</td>
<td>参考 IEC 62321-8: 2017，以气相层析仪/质谱仪分析。 (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>
<td>1000</td>
</tr>
<tr>
<td>邻苯二甲酸(2-乙基己基)酯 (DEHP) (Di-2-ethylhexyl phthalate (DEHP)) (CAS No.: 117-81-7)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
<td>1000</td>
</tr>
<tr>
<td>邻苯二甲酸二异丁酯 (DIBP) (Diisobutyl phthalate (DIBP)) (CAS No.: 84-69-5)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>邻苯二甲酸二异辛酯 (DIDP) (Diisodecyl phthalate (DIDP)) (CAS No.: 26761-40-0, 68515-49-1)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>邻苯二甲酸二异壬酯 (DINP) (Diisononyl phthalate (DINP)) (CAS No.: 28553-12-0, 68515-48-0)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>邻苯二甲酸二正辛酯 (DNOP) (Di-n-octyl phthalate (DNOP)) (CAS No.: 117-84-0)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>測試項目 (Test Items)</td>
<td>測試方法 (Method)</td>
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</tr>
<tr>
<td>----------------------</td>
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<td>--------------</td>
</tr>
<tr>
<td>六溴環十二烷及所有主要被辨別出的異構物 (HBCDD) (α- HBCDD, β- HBCDD, γ- HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α- HBCDD, β- HBCDD, γ- HBCDD)) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))</td>
<td>參考IEC 62321: 2008 - 以氣相層析儀/質譜儀分析。 (With reference to IEC 62321: 2008, analysis was performed by GC/MS.)</td>
<td>mg/kg</td>
<td>5</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>氟 (F) (Fluorine (F)) (CAS No.: 14762-94-8)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>1230</td>
<td>-</td>
</tr>
<tr>
<td>氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)</td>
<td>參考BS EN 14582: 2016 - 以離子層析儀分析。 (With reference to BS EN 14582: 2016, analysis was performed by IC.)</td>
<td>mg/kg</td>
<td>50</td>
<td>361</td>
<td>-</td>
</tr>
<tr>
<td>溴 (Br) (Bromine (Br)) (CAS No.: 10097-32-2)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>84200</td>
<td>-</td>
</tr>
<tr>
<td>碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)</td>
<td></td>
<td>mg/kg</td>
<td>50</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>全氟辛烷磺酸及其鹽類 (PFOS and its salts) (CAS No.: 1763-23-1 and its salts)</td>
<td>參考US EPA 3550C: 2007 - 以液相層析串聯質譜儀分析。 (With reference to US EPA 3550C: 2007, analysis was performed by LC/MS/MS.)</td>
<td>mg/kg</td>
<td>10</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>全氟辛酸及其鹽類 (PFOA and its salts) (CAS No.: 335-67-1 and its salts)</td>
<td>參考US EPA 3550C: 2007 - 以液相層析串聯質譜儀分析。 (With reference to US EPA 3550C: 2007, analysis was performed by LC/MS/MS.)</td>
<td>mg/kg</td>
<td>10</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>四溴雙酚-A (TBBP-A) (Tetrabromobisphenol A (TBBP-A)) (CAS No.: 79-94-7)</td>
<td>參考RSTS-E&amp;E-121 - 以液相層析儀/質譜儀分析。 (With reference to RSTS-E&amp;E-121, analysis was performed by LC/MS.)</td>
<td>mg/kg</td>
<td>10</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>雙酚A (Bisphenol A) (CAS No.: 80-05-7)</td>
<td>參考RSTS-CHEM-239-1 - 以液相層析串聯質譜儀分析。 (With reference to RSTS-CHEM-239-1, analysis was performed by LC/MS/MS.)</td>
<td>mg/kg</td>
<td>1</td>
<td>1080</td>
<td>-</td>
</tr>
</tbody>
</table>

有機錫 (Organic-tin compounds)

<table>
<thead>
<tr>
<th>測試項目 (Test Items)</th>
<th>測試方法 (Method)</th>
<th>單位 (Unit)</th>
<th>MDL (Result)</th>
<th>結果 (Result)</th>
<th>限值 (Limit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>三丁基錫 (TBT) (Tributyl tin (TBT))</td>
<td>參考ISO 17353: 2004 - 以氣相層析儀/火焰光度儀分析。 (With reference to ISO 17353: 2004, analysis was performed by GC/FPD.)</td>
<td>mg/kg</td>
<td>0.03</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>三苯基錫 (TPT) (Triphenyl tin (TPT))</td>
<td></td>
<td>mg/kg</td>
<td>0.03</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>二丁基錫 (DBT) (Dibutyl tin (DBT))</td>
<td></td>
<td>mg/kg</td>
<td>0.03</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>二辛基錫 (DOT) (Diocetyl tin (DOT))</td>
<td></td>
<td>mg/kg</td>
<td>0.03</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>测试项目 (Test Items)</td>
<td>测试方法 (Method)</td>
<td>单位 (Unit)</td>
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<td>结果 (Result)</td>
<td>限值 (Limit)</td>
</tr>
<tr>
<td>----------------------</td>
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<td>-------------</td>
</tr>
<tr>
<td>氧化雙三丁基錫 (TBTO) (Bis(tributyltin) oxide (TBTO)) (CAS No.: 56-35-9)</td>
<td>由三丁基錫測試結果計算得之。 (Calculated from the result of Tributyl Tin (TBT).)</td>
<td>mg/kg</td>
<td>0.03▲</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>聚氯乙烯 (Polyvinyl chloride) (PVC)</td>
<td>参考ASTM E1252: 2013 - 以傳立葉轉換紅外線光譜儀及焰色法分析。 (With reference to ASTM E1252: 2013, analysis was performed by FT-IR and Flame Test.)</td>
<td>**</td>
<td>-</td>
<td>Negative</td>
<td>-</td>
</tr>
<tr>
<td>砷 (As) (Arsenic (As)) (CAS No.: 7440-38-2)</td>
<td>参考US EPA 3052: 1996 - 以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>铋 (Be) (Beryllium (Be)) (CAS No.: 7440-41-7)</td>
<td>参考US EPA 3052: 1996 - 以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>镉 (Ni) (Nickel (Ni)) (CAS No.: 7440-02-0)</td>
<td>参考US EPA 3052: 1996 - 以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)</td>
<td>mg/kg</td>
<td>2</td>
<td>6.42</td>
<td>-</td>
</tr>
<tr>
<td>磷 (P) (Phosphorus (P)) (CAS No.: 7723-14-0)</td>
<td>参考US EPA 3052: 1996 - 以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)</td>
<td>mg/kg</td>
<td>2</td>
<td>47.3</td>
<td>-</td>
</tr>
<tr>
<td>铑 (Sb) (Antimony (Sb)) (CAS No.: 7440-36-0)</td>
<td>参考US EPA 3052: 1996 - 以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>镉 (Sn) (Tin (Sn)) (CAS No.: 7440-31-5)</td>
<td>参考US EPA 3052: 1996 - 以感應耦合電漿發射光譜儀分析。 (With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)</td>
<td>mg/kg</td>
<td>2</td>
<td>n.d.</td>
<td>-</td>
</tr>
<tr>
<td>测试项目 (Test Items)</td>
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<td>单位 (Unit)</td>
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</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>纸介质有机物 / Total Volatile Organic Compounds (TVOC)</td>
<td>以顶空气体进样装置，连接气相层析仪/质谱仪检测。 (Analysis was performed by Headspace linked GC/MS.) (测试条件 / Test Condition: 90℃, 30 mins)</td>
<td>ug/g</td>
<td>1</td>
<td>n.d. (Limit)</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
1. mg/kg = ppm; 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法检测极限值)
3. n.d. = Not Detected (未检出); 小于MDL / Less than MDL
4. "-" = Not Regulated (无规格值)
5. ** = Qualitative analysis (No Unit) 定性分析(无单位)
6. Negative = Undetectable 陰性(未侦测到); Positive = Detectable 陽性(已侦测到)
8. 全氟辛酸及其盐类包含等物质 (PFOA and its salts including): CAS No.: 335-67-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 3825-26-1 and others.
9. (*)

若铬含量小于六價格之方法侦测极限值，則六價格為n.d.，不須再測試六價格。
The result of Cr(VI) is "n.d." as the result of Chromium (Cr) is less than the MDL of Cr(VI), and confirmation test of Cr(VI) is not required.
若铬含量未小于六價格之方法侦测极限值，需进行六價格測試。
If the Chromium (Cr) content is not less than the MDL of Cr(VI), confirmation test of Cr(VI) is required.
10. ▲ : MDL is the assessment of elements/analyzed substances. (The MDL was evaluated for element / tested substance.)

Conversion Formula: \[ AX = A \times F \]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conversion Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bis(tributyltin)oxide (TBTO)</td>
<td>1.0276</td>
</tr>
<tr>
<td>Tributyl Tin (TBT)</td>
<td>1.0276</td>
</tr>
</tbody>
</table>

11. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits. (

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)
根據以下的流程圖之條件，樣品已完全溶解。 （六價鉻測試方法除外）
These samples were dissolved totally by pre-conditioning method according to below flow chart.
（Cr VI test method excluded）

剪裁・製備樣品 / Cutting・Preparation
測試樣品重量 / Sample measurement
金屬 / Metal
非金屬 / Non-metal
ABS / PC / PVC
其他材質 / Others

鉛 Pb・鍉 Cd / 汞 Hg

溶液 / Solution 殘渣 / Residue

超音波溶解 / Dissolving by ultrasonication
在60℃條件下超音波溶解 / Digesting at 60℃ by ultrasonication
取水層 / Separating to get aqueous phase

加入發色劑顯色 / Add diphenyl-carbazide for color development

加入發色劑顯色 / Add diphenyl-carbazide for color development
以紫外光 - 可見光譜儀，量測樣品溶液在540 nm的吸收度 / Measure the absorbance at 540 nm by UV-Vis spectrophotometer

調整 pH / pH adjustment

灼燒 / Ashing

沸水萃取 / Boiling water extraction

冷卻後過濾樣品 / Cool, filter digestate through filter

加入發色劑顯色 / Add diphenyl-carbazide for color development

1) 鹼熔融法 / Alkali fusion
2) 鹼酸溶解 / HCl to dissolve

用微波消解儀 / 電熱板進行酸溶解
Acid digestion with microwave / hot plate

測試報告
Test Report

號碼 (No.) : ETA22A00033 日期 (Date) : 17-Oct-2022

analyst

分析由
Analysis was performed by

剪裁・製備樣品 / Cutting・Preparation
測試樣品重量 / Sample measurement
金屬 / Metal
非金屬 / Non-metal
ABS / PC / PVC
其他材質 / Others

鉛 Pb・鍉 Cd / 汞 Hg
多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs

初次測試程序 / First testing process
選擇性篩檢程序 / Optional screen process
確認程序 / Confirmation process

樣品前處理 / Sample pretreatment

初篩分析/ Screen analysis

樣品萃取 / Sample extraction
索式萃取法 / Soxhlet method

萃取液濃縮/稀釋
Concentrate/Dilute extracted solution

萃取液過濾 / Filter

氣相層析質譜儀 / GC/MS
測試報告
Test Report

可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】

樣品前處理/分樣 / Sample pretreatment/separation

樣品以 THF 四氫呋喃溶解萃取 / Sample dissolved/extracted by THF

萃取液稀釋 / Dilute extracted solution

氣相層析質譜儀分析 / Analysis was performed by GC/MS
六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD

1. 樣品前處理 / Sample pretreatment
2. 樣品萃取 Sample extraction / 超音波萃取法 Ultrasonic method
3. 萃取液濃縮/稀釋 / Concentrate/Dilute extracted solution
4. 萃取液過濾 / Filter
5. 以氣相層析/質譜儀分析 / Analysis was performed by GC/MS
6. 數據 / Data

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卤素分析流程图 / Analytical flow chart - Halogen

1. 样品前处理/分样 / Sample pretreatment / Separation
2. 秤重及将样品放入样品槽中 / Weighting and putting sample in cell
3. 燃烧法/吸收 / Oxygen bomb combustion / Absorption
4. 稀释至固定体积 / Dilution to fixed volume
5. 以离子层析仪分析 / Analysis was performed by IC
全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)

樣品前處理 / Sample pretreatment

超音波萃取法萃取 / Sample extraction by ultrasonic extraction

萃取液稀釋/濃縮 / Concentrate/Dilute extracted solution

以氣相層析/質譜儀分析或液相層析質譜儀或串聯質譜儀分析 / Analysis was performed by GC/MS or LC/MS or LC/MS/MS

數據 / Data
四溴双酚-A 分析流程图 / Analytical flow chart - TBBP-A

Sample pretreatment

Sample extraction by ultrasonic extraction

Concentrate/Dilute extracted solution

Analysis was performed by LC/MS

Data
雙酚A分析流程圖 / Analytical flow chart - Bisphenol A

1. 樣品前處理 / 
   Sample pretreatment

2. 超音波萃取法萃取 / 
   Sample extraction by sonication extraction

3. 萃取液濃縮/稀釋 / 
   Concentrate/Dilute extracted solution

4. 以液相層析串聯質譜儀分析 / 
   Analysis was performed by LC/MS/MS

5. 數據 / Data

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Test Report

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有機錫分析流程圖 / Analytical flow chart - Organic-Tin

1. 樣品前處理 / Sample pretreatment
2. 有機溶劑萃取 / Sample extraction by organic solvent
3. 四乙基硼化鈉衍生化 / Derived by Sodium tetraethylborate
4. 萃取液濃縮/稀釋 / Concentrate/Dilute extracted solution
5. 氣相層析/火焰光度計分析 / Analysis was performed by GC/FPD
6. 數據 / Data
測試報告
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聚氯乙烯物質判定分析流程圖 / Analysis flow chart - PVC

樣品前處理 / Sample pre-treatment
焰色法檢測 / Flame test
紅外光譜分析 / Sample analyzed by FTIR
確認C-Cl鍵波數 / Check wave-number of C-Cl bonding
數據 / Data

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測試報告
Test Report

元 素(含重金屬)分析流程圖 / Analytical flow chart of elements (Heavy metal included)

These samples were dissolved totally by pre-conditioning method according to below flow chart.

【參考方法/Reference method：US EPA 3051A、US EPA 3052】

剪裁、製備樣品 / Cutting、Preparation

測試樣品重量 / Sample measurement

硝酸/鹽酸/氫氟酸的微波消化 / Microwave digestion with HNO₃/HCl/HF

過濾 / Filtration

溶液 / Solution

1) 鹽熔融法 / Alkali fusion
2) 鹽酸溶解 / HCl to dissolve

以感應耦合電漿發射光譜儀分析 / Analysis was performed by ICP-OES

* US EPA 3051A 方法未添加氫氟酸 / US EPA 3051A method does not add HF.
**Test Report**

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揮發性有機化合物分析流程圖/
Analytical flow chart of volatile organic compounds (VOCs)

【參考方法/ Reference method：US EPA 5021A】

1. **樣品前處理/ Sample pretreatment**
2. **取適量樣品置入頂空玻璃瓶中/ Take sample and put it into headspace glassware**
3. **加熱烘烤樣品 / Bake the sample in the oven**
4. **以氣相層析/ 質譜儀分析/ Analysis was performed by GC/MS**
5. **數據/ Data**

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