

測試報告

Test Report

ISOLA GROUP

號碼(No.) : CV/2018/B0109

日期(Date) : 2018/11/28

頁數(Page): 1 of 8



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/on behalf of the applicant as):

樣品名稱(Sample Description) : LAMINATE
樣品型號(Style/Item No.) : FR408HR
收件日期(Sample Receiving Date) : 2018/11/14
測試期間(Testing Period) : 2018/11/14 TO 2018/11/28

=====
測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages).


Troy Chang, Manager - Tech
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



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測試結果(Test Results)

測試部位(PART NAME)No. 1 : 銅色片狀 (COPPER COLORED SHEET)

| 測試項目 (Test Items) | 單位 (Unit) | 測試方法 (Method) | 方法偵測 極限值 (MDL) | 結果 (Result) |
|---|--------------|--|----------------------|----------------|
| | | | | No. 1 |
| 鹵素 / Halogen | | | | |
| 鹵素 (氟) / Halogen-Fluorine (F) (CAS No. : 14762-94-8) | mg/kg | 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. | 50 | 176 |
| 鹵素 (氯) / Halogen-Chlorine (Cl) (CAS No. : 22537-15-1) | mg/kg | | 50 | 54.3 |
| 鹵素 (溴) / Halogen-Bromine (Br) (CAS No. : 10097-32-2) | mg/kg | | 50 | 13400 |
| 鹵素 (碘) / Halogen-Iodine (I) (CAS No. : 14362-44-8) | mg/kg | | 50 | n. d. |
| 四溴雙酚-A / Tetrabromobisphenol A (TBBP-A) (CAS No. : 79-94-7) | mg/kg | 參考Global SOP RSTS-E&E-121 (2012), 以液相層析儀/質譜儀分析. / With reference to Global SOP RSTS-E&E-121 (2012). Analysis was performed by LC/MS. | 10 | n. d. |
| 雙酚 A / Bisphenol A (CAS No. : 80-05-7) | mg/kg | 參考RSTS-CHEM-239-1 (2016), 以超高效能液相層析串聯質譜儀檢測. / With reference to RSTS-CHEM-239-1 (2016). Analysis was performed by UPLC-MSMS. | 1 | n. d. |
| 總揮發性有機物質 / Total Volatile Organic Compounds (TVOC) | mg/kg | 以頂空氣體進樣裝置, 連接氣相層析儀/質譜儀檢測. / Analysis was performed by Headspace linked GC/MS. (測試條件 / Test Condition: 90°C, 30 mins) | 1 | n. d. |

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| 測試項目 (Test Items) | 單位 (Unit) | 測試方法 (Method) | 方法偵測 極限值 (MDL) | 結果 (Result) |
|----------------------|--------------|--|----------------------|----------------|
| | | | | No. 1 |
| 銻 / Antimony (Sb) | mg/kg | 參考US EPA 3052 (1996), 以感應耦合 電漿原子發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-AES. | 2 | n. d. |
| 砷 / Arsenic (As) | mg/kg | | 2 | n. d. |
| 鎳 / Nickel (Ni) | mg/kg | | 2 | 37.3 |
| 磷 / Phosphorus (P) | mg/kg | | 2 | 24.4 |

備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n. d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. "-" = Not Regulated (無規格值)

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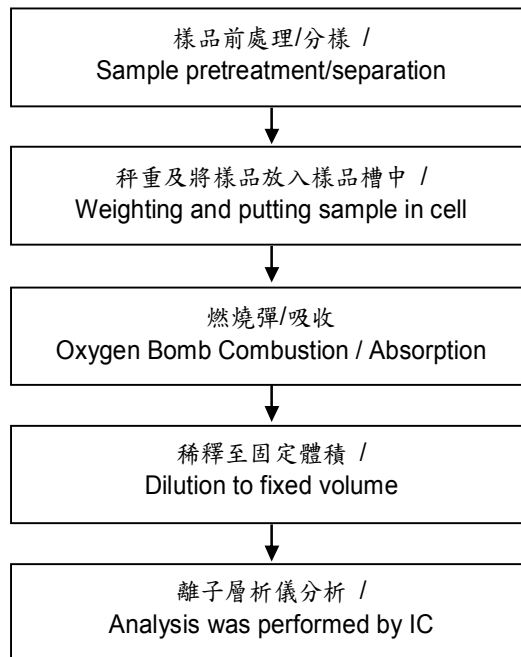
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鹵素分析流程圖 / Analytical flow chart - Halogen

- 測試人員：陳恩臻 / Technician: Rita Chen
- 測試負責人：張啟興 / Supervisor: Troy Chang



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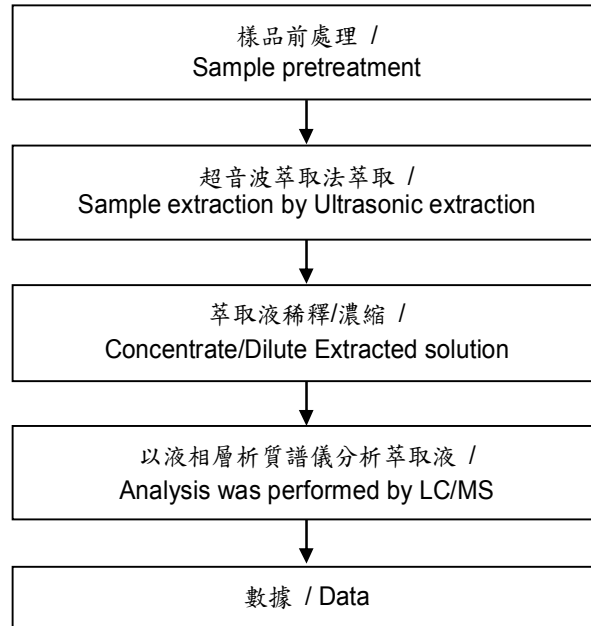
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四溴雙酚-A 分析流程圖 / Analytical flow chart - TBBP-A

- 測試人員：涂雅苓 / Technician: Yaling Tu
- 測試負責人：張啟興 / Supervisor: Troy Chang



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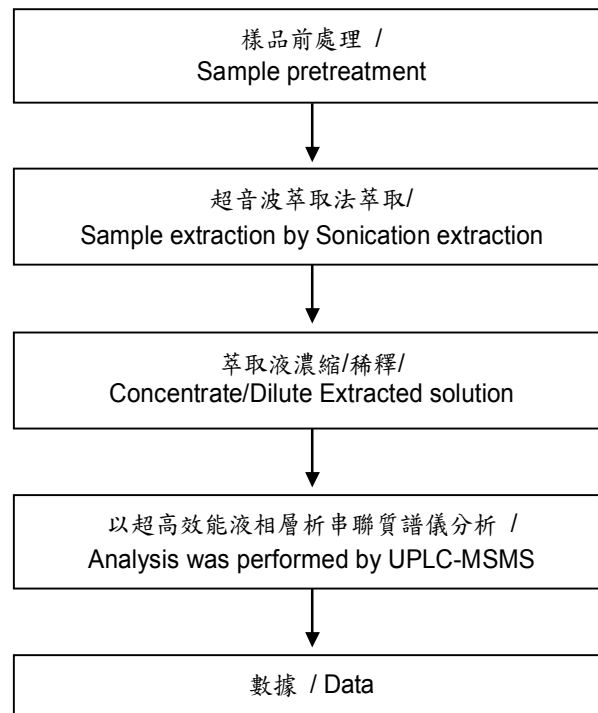
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雙酚A分析流程圖 / Analytical flow chart - Bisphenol A

- 測試人員：涂雅苓 / Technician: Yaling Tu
- 測試負責人：張啟興 / Supervisor: Troy Chang



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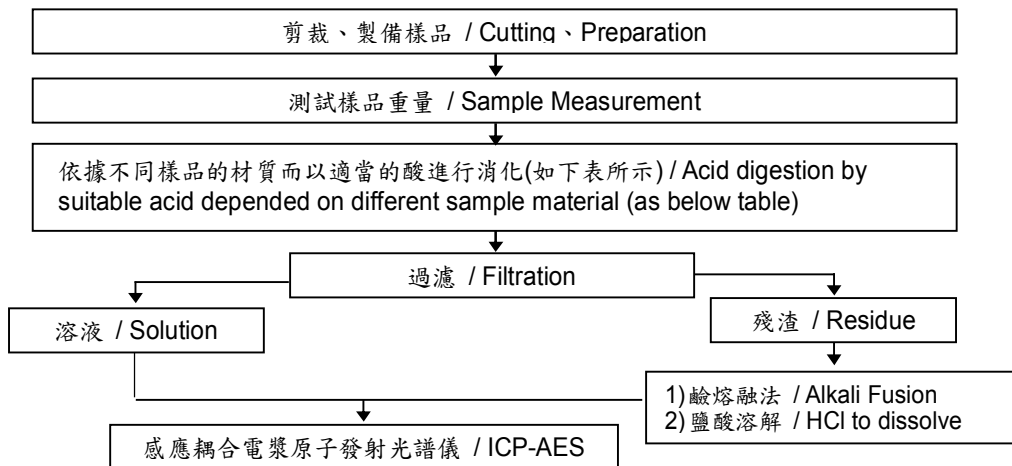
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根據以下的流程圖之條件，樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.

- 測試人員：陳恩臻 / Technician: Rita Chen
- 測試負責人：張啟興 / Supervisor: Troy Chang

元素以 ICP-AES 分析的消化流程圖 (Flow Chart of digestion for the elements analysis performed by ICP-AES)



| | |
|---|--|
| 鋼,銅,鋁,焊錫 / Steel, copper, aluminum, solder | 王水,硝酸,鹽酸,氫氟酸,雙氧水 / Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂ |
| 玻璃 / Glass | 硝酸,氫氟酸 / HNO ₃ /HF |
| 金,鉑,鈀,陶瓷 / Gold, platinum, palladium, ceramic | 王水 / Aqua regia |
| 銀 / Silver | 硝酸 / HNO ₃ |
| 塑膠 / Plastic | 硫酸,雙氧水,硝酸,鹽酸 / H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl |
| 其他 / Others | 加入適當的試劑至完全溶解 / Added appropriate reagent to total digestion |

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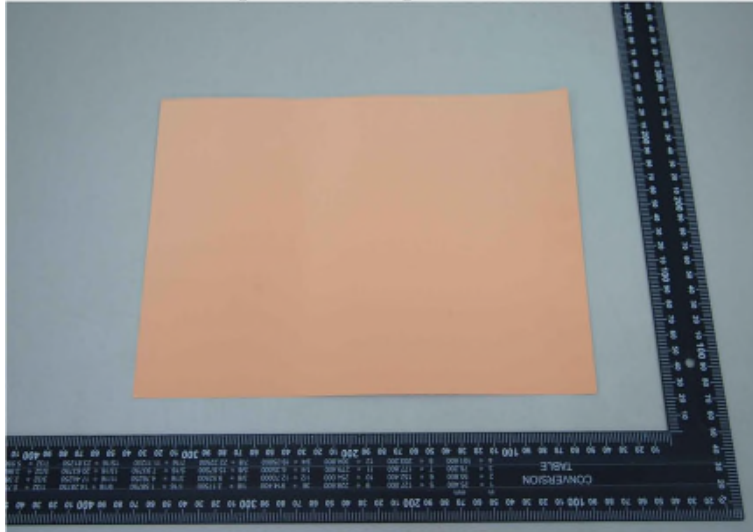
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* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。 *
(The tested sample / part is marked by an arrow if it's shown on the photo.)

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** 報告結尾 (End of Report) **

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