

## **Test Report**

ISOLA GROUP

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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.) 254

收件日期(Sample Receiving Date) 2019/11/12

測試期間(Testing Period) 2019/11/12 to 2019/11/26

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

Troy Chang / Manager - Teq Signed for and behalf of SĞS 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)	MDL	結果 (Result)
,	(UIII t)	(Method)		No. 1
鹵素 / Halogen				
鹵素 (氟) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg		50	1000
鹵素(氯)/ Halogen-Chlorine (C1) (CAS No.: 22537-15-1)	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	275
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	36100
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n. d.
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	參考US EPA 3550C (2007),以液相層析/質譜儀檢測. / With reference to US EPA 3550C (2007). Analysis was	10	n. d.
全氟辛酸 / PFOA (CAS No.: 335-67-1)	mg/kg	performed by LC/MS.	10	n. d.
四溴雙酚-A / Tetrabromobisphenol A (TBBP-A) (CAS No.: 79-94-7)	mg/kg	参考Global SOP RSTS-E&E-121 (2012) ,以液相層析/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	参考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	1.20



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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	MDL	結果 (Result) No.1
砷 / Arsenic (As)	mg/kg	參考US EPA 3052 (1996),以感應耦合電漿發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	n. d.
鈹 / Beryllium (Be)	mg/kg	参考US EPA 3052 (1996),以感應耦合 電漿發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	n. d.
銻 / Antimony (Sb)	mg/kg	参考US EPA 3052 (1996),以感應耦合電漿發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	n. d.
鎳 / Nickel (Ni)	mg/kg	參考US EPA 3052 (1996),以感應耦合電漿發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	12. 1
錫 / Tin (Sn)	mg/kg	參考US EPA 3052 (1996),以感應耦合電漿發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	n. d.
磷 / Phosphorus (P)	mg/kg	参考US EPA 3052 (1996),以感應耦合電漿發射光譜儀檢測. / With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	32. 9

#### 備註(Note):

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



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### PFOS参考資訊(Reference Information): 持久性有機污染物 POPs - (EU) 2019/1021

PFOS濃度在物質或製備中不得超過0,001%(10ppm),在半成品、成品或零部件中不得超過0,1%(1000ppm),在紡織品或塗 層材料中不得超過1µg/m²。

(Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above  $1\mu g/m^2$ .)



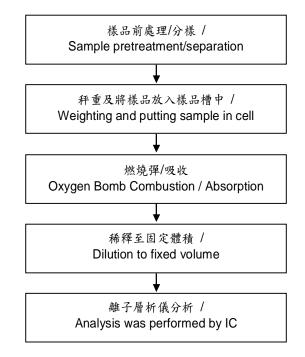
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### 鹵素分析流程圖 / Analytical flow chart - Halogen

測試人員: 陳恩臻 / Technician: Rita Chen

測試負責人:張啟興 / Supervisor: Troy Chang



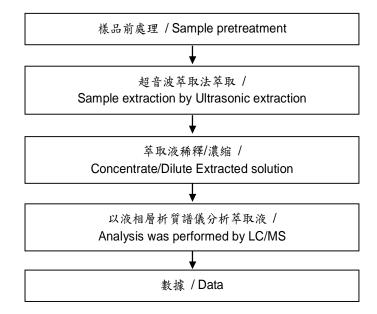


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#### 全氟辛酸/全氟辛烷磺酸分析流程圖 / Analytical flow chart - PFOA/PFOS

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





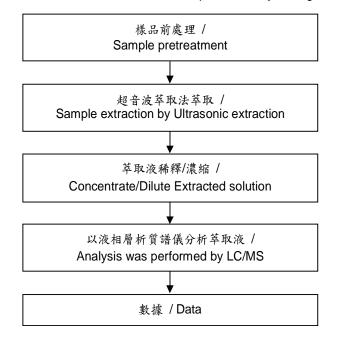
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### 四溴雙酚-A 分析流程圖 / Analytical flow chart - TBBP-A

測試人員:涂雅苓 / Technician: Yaling Tu

測試負責人:張啟興 / Supervisor: Troy Chang



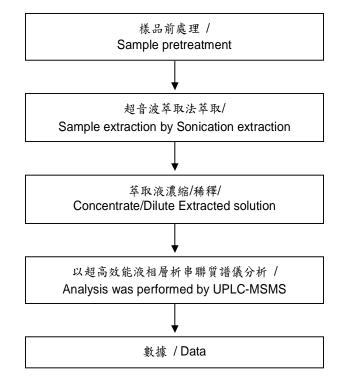


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### 雙酚A分析流程圖 / Analytical flow chart - Bisphenol A

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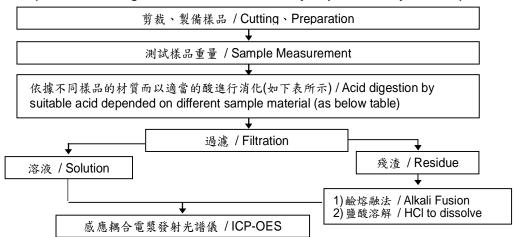
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根據以下的流程圖之條件,樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.

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



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



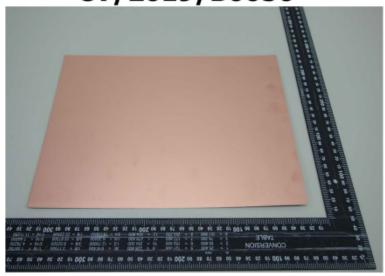
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\* 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. \* (The tested sample / part is marked by an arrow if it's shown on the photo.)

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\*\* 報告結尾 (End of Report) \*\*