

**Test Report** 

號碼(No.): ETR21A05068M02 日期(Date): 23-Nov-2021 頁數(Page): 1 of 15

欣統股份有限公司 (SYNTON-TECH CORPORATION)

東莞市欣杭電子有限公司 (SYNTRONIC CORPORATION)

台灣省新北市汐止區新台五路一段79號16樓之3 (16F-3, NO. 79, FAR EAST WORLD CENTER SEC. 1, HSIN TAI WU ROAD, HSI-CHIH DIST., NEW TAIPEI CITY, TAIWAN.)

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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 Name) : METAL FILM RESISTOR (金屬膜電阻器)

樣品型號(Style/Item No.) : MF/MFH/FMF TYPE

\_\_\_\_\_\_

收件日(Sample Receiving Date) : 25-Oct-2021

測試期間(Testing Period) : 25-Oct-2021 to 29-Oct-2021

測試需求(Test Requested) : 依據客戶要求進行測試,測試項目請參閱測試結果表格。 (Testing item(s)

is/are specified by client. Please refer to result table for testing item(s).)

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





PIN CODE: FDA45D49



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#### 測試部位敘述 (Test Part Description)

No.1 : 整體混測 (MIXED ALL PARTS)

#### 測試結果 (Test Results)

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



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測試項目 (Tost Itoms)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
(Test Items)	(Wethod)	(OIIII)		No.1
		mg/kg	5	n.d.
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	n.d.
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	n.d.
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	n.d.
五溴聯苯醚 (Pentabromodiphenyl ether)	↓  参考IEC 62321-6: 2015,以氣相層析儀/質譜儀分	mg/kg	5	n.d.
六溴聯苯醚 (Hexabromodiphenyl ether)	析。(With reference to IEC 62321-6: 2015,	mg/kg	5	n.d.
七溴聯苯醚 (Heptabromodiphenyl ether)	analysis was performed by GC/MS.)	mg/kg	5	n.d.
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl	參考IEC 62321-8: 2017,以氣相層析儀/質譜儀分	mg/kg	50	n.d.
phthalate (BBP)) (CAS No.: 85-68-7)	析。(With reference to IEC 62321-8: 2017,			
	analysis was performed by GC/MS.)			
鄰苯二甲酸二丁酯 (DBP) (Dibutyl	參考IEC 62321-8: 2017·以氣相層析儀/質譜儀分	mg/kg	50	n.d.
phthalate (DBP)) (CAS No.: 84-74-2)	析。(With reference to IEC 62321-8: 2017,			
	analysis was performed by GC/MS.)			
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-	參考IEC 62321-8: 2017·以氣相層析儀/質譜儀分	mg/kg	50	n.d.
(2-ethylhexyl) phthalate (DEHP)) (CAS	析。(With reference to IEC 62321-8: 2017,			
No.: 117-81-7)	analysis was performed by GC/MS.)			
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl	參考IEC 62321-8: 2017·以氣相層析儀/質譜儀分	mg/kg	50	n.d.
phthalate (DIBP)) (CAS No.: 84-69-5)	析。(With reference to IEC 62321-8: 2017,			
	analysis was performed by GC/MS.)			
鄰苯二甲酸二異癸酯 (DIDP) (Diisodecyl	參考IEC 62321-8: 2017·以氣相層析儀/質譜儀分	mg/kg	50	n.d.
phthalate (DIDP)) (CAS No.: 26761-40-	析。(With reference to IEC 62321-8: 2017,			
0, 68515-49-1)	analysis was performed by GC/MS.)			



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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1
鄰苯二甲酸二異壬酯 (DINP) (Diisononyl phthalate (DINP)) (CAS No.: 28553-12-0, 68515-48-0)	參考IEC 62321-8: 2017·以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.
鄰苯二甲酸二正辛酯 (DNOP) (Di-n-octyl phthalate (DNOP)) (CAS No.: 117-84-0)	參考IEC 62321-8: 2017·以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.
鄰苯二甲酸二正己酯 (DNHP) (Di-n-hexyl phthalate (DNHP)) (CAS No.: 84-75-3)	參考IEC 62321-8: 2017 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.
氟 (F) (Fluorine (F)) (CAS No.: 14762-94-8)	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.)	mg/kg	50	n.d.
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537- 15-1)		mg/kg	50	n.d.
溴 (Br) (Bromine (Br)) (CAS No.: 10097- 32-2)		mg/kg	50	n.d.
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)		mg/kg	50	n.d.
全氟辛烷磺酸及其鹽類 (PFOS and its salts) (CAS No.: 1763-23-1 and its salts)	參考CEN/TS 15968: 2010 · 以液相層析串聯質譜 儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.
全氟辛酸及其鹽類 (PFOA and its salts) (CAS No.: 335-67-1 and its salts)	參考CEN/TS 15968: 2010 · 以液相層析串聯質譜 儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.
銻 (Sb) (Antimony (Sb)) (CAS No.: 7440-36-0)	參考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.)	mg/kg	2	74.4



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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
(rest items)	(Metriod)	(Onit)		No.1
鈹 (Be) (Beryllium (Be)) (CAS No.: 7440-41-7)	參考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.)	mg/kg	2	n.d.
六溴環十二烷及所有主要被辨別出的異構物(HBCDD) ( $\alpha$ - HBCDD, $\beta$ - HBCDD, $\gamma$ - HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ - HBCDD, $\beta$ - HBCDD, $\gamma$ - HBCDD)) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	參考IEC 62321-9: 2021 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-9: 2021, analysis was performed by GC/MS.)	mg/kg	20	n.d.
中鏈氯化石蠟(C14-C17) (MCCP) (Medium Chain Chlorinated Paraffins(C14-C17) (MCCP)) (CAS No.: 85535-85-9)	參考ISO 18219: 2015·以氣相層析儀/質譜儀分析。(With reference to ISO 18219: 2015, analysis was performed by GC/MS.)	mg/kg	50	n.d.

#### 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); 小於MDL / Less than MDL
- 4. "-" = Not Regulated (無規格值)
- 5. 全氟辛烷磺酸及其鹽類包含 (PFOS and its salts including):

CAS No.: 29081-56-9, 2795-39-3, 29457-72-5, 70225-14-8, 56773-42-3, 251099-16-8, 307-35-7.

- 6. 全氟辛酸及其鹽類包含 (PFOA and its salts including):
  - CAS No.: 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0.
- 7. 樣品的測試是基於申請人要求混合測試‧報告中的混合測試結果不代表其中個別單一材質的含量。
  The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value.
- 8. 本報告為 ETR21A05068 之異動報告。(This is the additional test report of ETR21A05068.)



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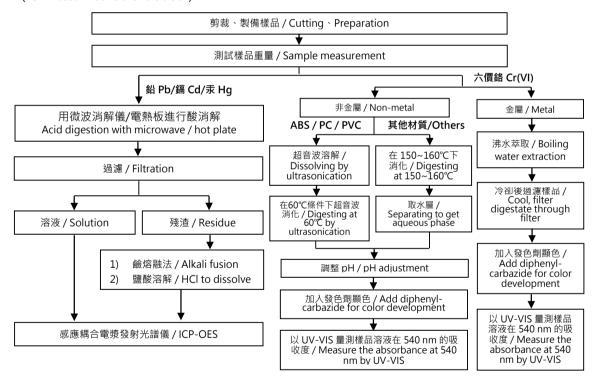
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#### 重金屬流程圖 / Analytical flow chart of Heavy Metal

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. ( $Cr^{6+}$  test method excluded)





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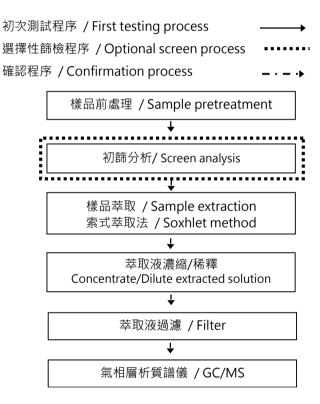
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#### 多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs





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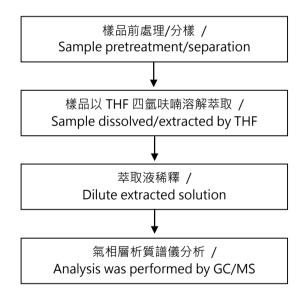
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可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】





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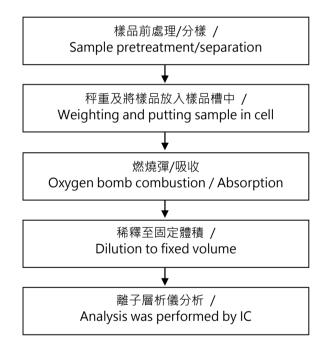
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#### 鹵素分析流程圖 / Analytical flow chart - Halogen





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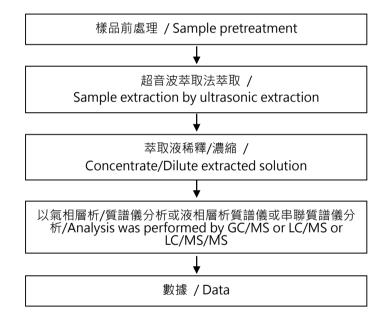
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全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)





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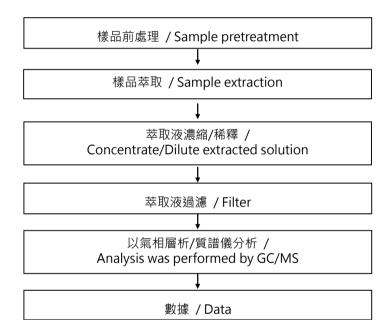
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#### 六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD





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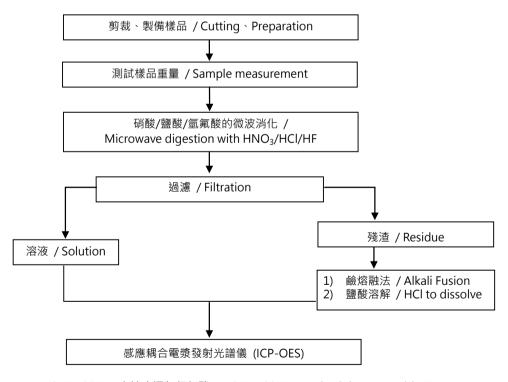
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#### 元素(含重金屬)分析流程圖 / Analytical flow chart of Elements (Heavy metal included)

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.

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



\* 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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欣統股份有限公司 (SYNTON-TECH CORPORATION)

東莞市欣杭電子有限公司 (SYNTRONIC CORPORATION)

台灣省新北市汐止區新台五路一段79號16樓之3 (16F-3, NO. 79, FAR EAST WORLD CENTER SEC. 1, HSIN TAI WU ROAD, HSI-CHIH DIST., NEW TAIPEI CITY, TAIWAN.)

廣東省東莞市大朗鎮富民中路613號1棟5樓 (5F, BUILDING 1, NO. 613, FU MIN ZHONG ROAD, DA LANG, DONG GUAN, GUANG DONG)



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欣統股份有限公司 (SYNTON-TECH CORPORATION)

東莞市欣杭電子有限公司 (SYNTRONIC CORPORATION)

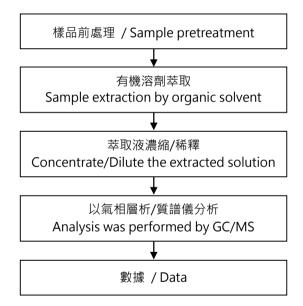
台灣省新北市汐止區新台五路一段79號16樓之3 (16F-3, NO. 79, FAR EAST WORLD CENTER SEC. 1, HSIN TAI WU ROAD, HSI-CHIH DIST., NEW TAIPEI CITY, TAIWAN.)

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#### 分析流程圖 / Analytical flow chart

【適用於:多氯聯苯、多氯奈、多氯三聯苯、滅蟻靈、氯化石蠟、DBBT】

\*Apply to: PCBs, PCNs, PCTs, Mirex, Chlorinated Paraffins, DBBT





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欣統股份有限公司 (SYNTON-TECH CORPORATION)

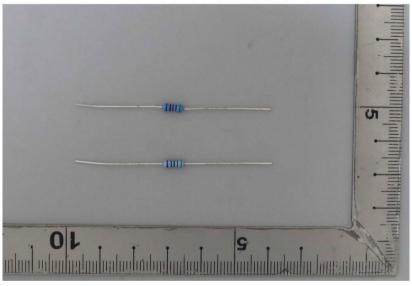
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\* 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. \* (The tested sample / part is marked by an arrow if it's shown on the photo.)

### ETR21A05068



\*\* 報告結尾 (End of Report) \*\*