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## **Test Report**

昇貿科技股份有限公司 SHENMAO TECHNOLOGY INC. 桃園縣觀音工業區工業二路12-1號 NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

以下測試樣品係由申請廠商所提供 behalf of the applicant as):	及確認 (The following sample(s) was/were submitted and identified by/on
樣品名稱(Sample Description)	: PURE TIN
樣品型號(Style/Item No.)	: H99.99S
收件日期(Sample Receiving Date)	: 2013/11/12
測試期間(Testing Period)	: 2013/11/12 TO 2013/11/18

**测試結果(Test Results)** : 請見下一頁 (Please refer to next pages).





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#### <u>測試結果(Test Results)</u>

測試部位(PART NAME)No.1 : 銀色金屬 (SILVER COLORED METAL)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321-5: 2013方法,以感應耦合電 漿原子發射光譜儀檢測. / With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321-5: 2013方法,以感應耦合電 漿原子發射光譜儀檢測. / With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	17
汞 / Mercury (Hg)	mg/kg	參考IEC 62321-4: 2013方法,以感應耦合電 漿原子發射光譜儀檢測. / With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	**	参考IEC 62321: 2008 - Annex B方法,以沸 水萃取法(UV-VIS)檢測. / With reference to IEC 62321: 2008 - Annex B and performed by Boiling water extraction (UV-VIS) Method.#	#	Negative
绨 / Antimony (Sb)	mg/kg	參考US EPA 3050B方法,以感應耦合電漿原子 發射光譜儀檢測. / With reference to US EPA Method 3050B. Analysis was performed by ICP-AES.	2	n.d.
錿 / Beryllium (Be)	mg/kg	参考US EPA 3050B方法,以感應耦合電漿原子 發射光譜儀檢測. / With reference to US EPA Method 3050B. Analysis was performed by ICP-AES.	2	n.d.



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桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
鉻 / Chromium (Cr)	mg/kg	參考US EPA 3050B方法,以感應耦合電漿原子 發射光譜儀檢測. / With reference to US EPA Method 3050B. Analysis was performed by ICP-AES.	2	n.d.
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	参考US EPA 3550C: 2007方法,以液相層析/ 質譜儀檢測. / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.
全氟辛酸 / PFOA (CAS No.: 335-67- 1)	mg/kg	參考US EPA 3550C: 2007方法,以液相層析/ 質譜儀檢測. / With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS.	10	n.d.
六溴環十二烷及所有主要被辨别出的 異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ - HBCDD, $\beta$ - HBCDD, $\gamma$ - HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	參考IEC 62321: 2008方法,以氣相層析/質譜 儀檢測. / With reference to IEC 62321: 2008 method. Analysis was performed by GC/MS.	5	n.d.
鄰苯二甲酸二異丁酯 / DIBP (Di- isobutyl phthalate) (CAS No.: 84- 69-5)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸甲苯基丁酯 / BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.



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桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
鄰苯二甲酸二異癸酯 / DIDP (Di- isodecyl phthalate) (CAS No.: 26761-40-0; 68515-49-1)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二異壬酯 / DINP (Di- isononyl phthalate) (CAS No.: 28553-12-0; 68515-48-0)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二正辛酯 / DNOP (Di-n- octyl phthalate) (CAS No.: 117- 84-0)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	參考EN 14372, 以氣相層析/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鹵素 / Halogen				
鹵素 (氟) / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	参考BS EN 14582:2007,以離子層析儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素(氯)/ Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg		50	n.d.
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n.d.



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SHENMAO TECHNOLOGY INC.

桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) No.1
多溴聯苯總和 / Sum of PBBs	mg/kg		-	n.d.
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	mg/kg		5	n.d.
六溴聯苯 / Hexabromobiphenyl	mg/kg		5	n.d.
七溴聯苯 / Heptabromobiphenyl	mg/kg		5	n.d.
入溴聯苯 / Octabromobiphenyl	mg/kg		5	n.d.
九溴聯苯 / Nonabromobiphenyl	mg/kg	參考IEC 62321: 2008 - Annex A方法,以氣	5	n.d.
十溴聯苯 / Decabromobiphenyl	mg/kg	相層析/質譜儀檢測. / With reference to	5	n.d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	IEC 62321: 2008 - Annex A and performed	-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg	by GC/MS.	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	mg/kg		5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg		5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n.d.
入溴聯苯醚 / 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.



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#### 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)
- 5. \*\*= Qualitative analysis (No Unit) 定性分析(無單位)
- 6.# = a. Positive means the presence of CrVI on the tested areas (Positive表示測試區域偵測到六價貉)
  - b. Negative means the absence of CrVI on the tested areas (Negative表示測試區域未偵測到六價貉)

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> tested areas. / 該溶液濃度 $\geq$ 0.02 mg/kg with 50 cm<sup>2</sup> (tested areas)

#### PFOS参考資訊(Reference Information): 持久性有機污染物 POPs - (EU) 757/2010

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/m<sup>2</sup>。

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



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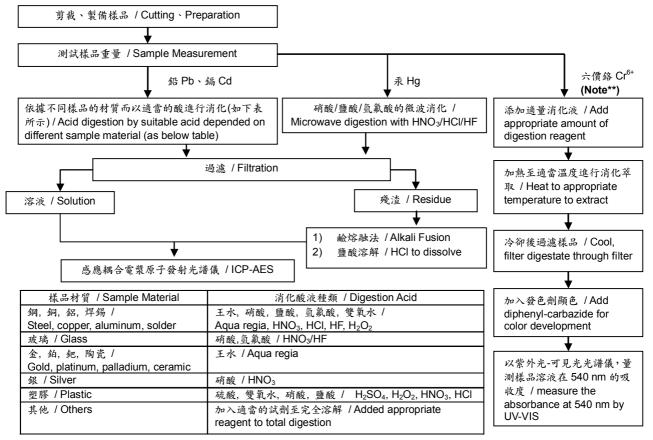
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桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

- 根據以下的流程圖之條件,樣品已完全溶解。(六價錄測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) 測試人員:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang



#### Note\*\* (For IEC 62321)

- (1) 針對非金屬材料加入鹼性消化液,加熱至 90~95℃萃取. / For non-metallic material, add alkaline digestion reagent and heat to 90~95℃.
- (2) 針對金屬材料加入純水,加熱至沸騰萃取. / For metallic material, add pure water and heat to boiling.



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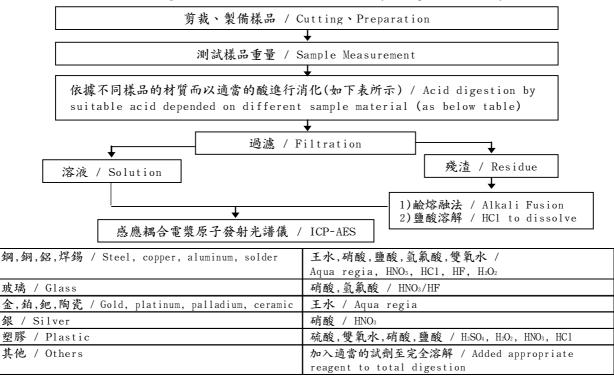
昇貿科技股份有限公司 SHENMAO TECHNOLOGY INC. 桃園縣觀音工業區工業二路12-1號

NO. 12-1, GONGYE 2ND RD., GUANYIN INDUSTRIAL AREA, TAOYUAN COUNTY 328, TAIWAN

- 1) 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.
- 2) 測試人員:楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人:張啓興 / Name of the person in charge of measurement: 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)





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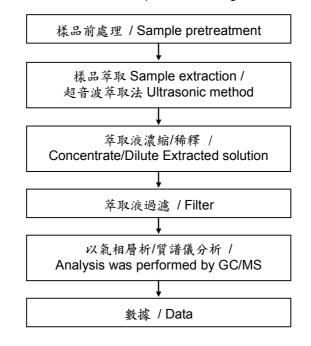
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#### 六溴環十二烷分析流程圖 / HBCDD analytical flow chart

■ 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong

■ 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang





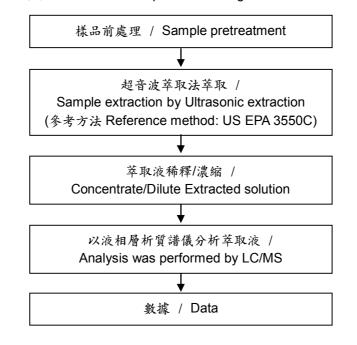
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#### 全氟辛酸/全氟辛烷磺酸分析流程圖 / PFOA/PFOS analytical flow chart

- 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang





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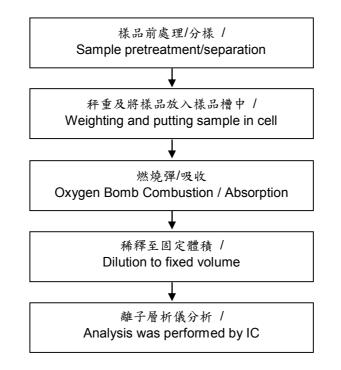
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#### 鹵素分析流程圖 / Analytical flow chart of halogen content

■ 测試人員:陳恩臻 / Name of the person who made measurement: Rita Chen

■ 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang





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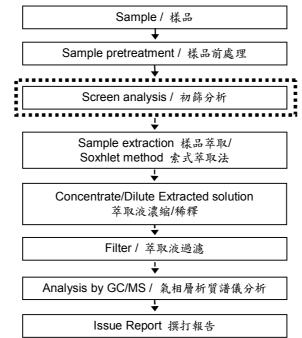
#### 多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

■ 測試人員:翁賜彬 / Name of the person who made measurement: Roman Wong

- 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang
- 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 - · - · ▶





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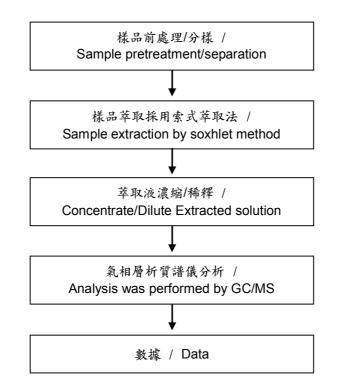
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#### 可塑劑分析流程圖 / Analytical flow chart of phthalate content

■ 測試人員:翁賜彬 / Name of the person who made measurement: Roman Wong

■ 測試負責人:張啓興 / Name of the person in charge of measurement: Troy Chang





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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) \*\*