

Test Report

測試結果(Test Results)

號碼(No.): ETR22600633 日期(Date): 10-Jun-2022

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健策精密工業股份有限公司 (JENTECH PRECISION INDUSTRIAL CO., LTD.)

桃園市龜山區華亞科技園區科技一路40號 (NO. 40, KEJI 1ST RD., GUEISHAN DISTRICT, TAOYUAN CITY 333, TAIWAN)

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):

送樣廠商(Sample Submitted By) : 健策精密工業股份有限公司 (JENTECH PRECISION INDUSTRIAL CO., LTD.)

樣品名稱(Sample Name) : C1100

收件日(Sample Receiving Date) : 06-Jun-2022

測試期間(Testing Period) : 06-Jun-2022 to 10-Jun-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一頁。 (Please refer to next pages for the other item(s).)

: 請參閱下一頁 (Please refer to following pages.)

Troy Chang / Department Malager
Signed for and on behalf of Alwah
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



PIN CODE: 6C20D734



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測試部位敘述 (Test Part Description)

No.1 : 銅色金屬 (COPPER COLORED METAL)

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 (Hexavalent Chromium) Cr(VI)	參考IEC 62321-7-1: 2015 · 以紫外光-可見光分光	μg/cm²	0.1	n.d.
(CAS No.: 18540-29-9) (#2)	光度計分析。(With reference to IEC 62321-7-1:			
	2015, 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	測試方法	單位	MDL	結果
(Test Items)	(Method)	(Unit)		(Result)
				No.1
一溴聯苯醚 (Monobromodiphenyl ether)		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)	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		mg/kg	50	n.d.
phthalate (BBP)) (CAS No.: 85-68-7)				
鄰苯二甲酸二丁酯 (DBP) (Dibutyl		mg/kg	50	n.d.
phthalate (DBP)) (CAS No.: 84-74-2)	參考IEC 62321-8: 2017·以氣相層析儀/質譜儀分			
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-	析。(With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.
(2-ethylhexyl) phthalate (DEHP)) (CAS	analysis was performed by GC/MS.)			
No.: 117-81-7)				
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl		mg/kg	50	n.d.
phthalate (DIBP)) (CAS No.: 84-69-5)				
氟 (F) (Fluorine (F)) (CAS No.: 14762-94-		mg/kg	50	n.d.
8)				
氯 (CI) (Chlorine (CI)) (CAS No.: 22537-	 参考BS EN 14582: 2016·以離子層析儀分析。	mg/kg	50	n.d.
15-1)	(With reference to BS EN 14582: 2016, analysis			
溴 (Br) (Bromine (Br)) (CAS No.: 10097-	was performed by IC.)	mg/kg	50	n.d.
32-2)	That performed by ie.,			
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)		mg/kg	50	n.d.



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測試項目	測試方法	單位	MDL	結果
(Test Items)	(Method)	(Unit)		(Result)
				No.1
全氟辛烷磺酸及其鹽類 (PFOS and its	参考CEN/TS 15968: 2010 · 以液相層析串聯質譜	mg/kg	0.01	n.d.
salts) (CAS No.: 1763-23-1 and its salts)	儀分析。(With reference to CEN/TS 15968:			
	2010, analysis was performed by LC/MS/MS.)			
全氟辛酸及其鹽類 (PFOA and its salts)	参考CEN/TS 15968: 2010 · 以液相層析串聯質譜	mg/kg	0.01	n.d.
(CAS No.: 335-67-1 and its salts)	儀分析。(With reference to CEN/TS 15968:			
	2010, analysis was performed by LC/MS/MS.)			
鈹 (Be) (Beryllium (Be)) (CAS No.: 7440-	參考US EPA 3050B: 1996,以感應耦合電漿發射	mg/kg	2	n.d.
41-7)	光譜儀分析。(With reference to US EPA 3050B:			
	1996, analysis was performed by ICP-OES.)			
銻 (Sb) (Antimony (Sb)) (CAS No.: 7440-	參考US EPA 3050B: 1996,以感應耦合電漿發射	mg/kg	2	n.d.
36-0)	光譜儀分析。(With reference to US EPA 3050B:			
	1996, analysis was performed by ICP-OES.)			

備註(Note):

- 1. mg/kg = ppm; 0.1wt% = 0.1% = 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. (#2) =
 - a. 當六價鉻結果大於0.13 μg/cm²,表示樣品表層含有六價鉻。(The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm². The sample coating is considered to contain Cr(VI).)
 - b. 當六價鉻結果為n.d. (濃度小於0.10 μg/cm²),表示表層不含六價鉻。(The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 μg/cm²). The coating is considered a non-Cr(VI) based coating)
 - c. 當六價鉻結果介於 0.10 及 0.13 $\mu g/cm^2$ 時,無法確定塗層是否含有六價鉻。(The result between 0.10 $\mu g/cm^2$ and 0.13 $\mu g/cm^2$ is considered to be inconclusive unavoidable coating variations may influence the determination.)



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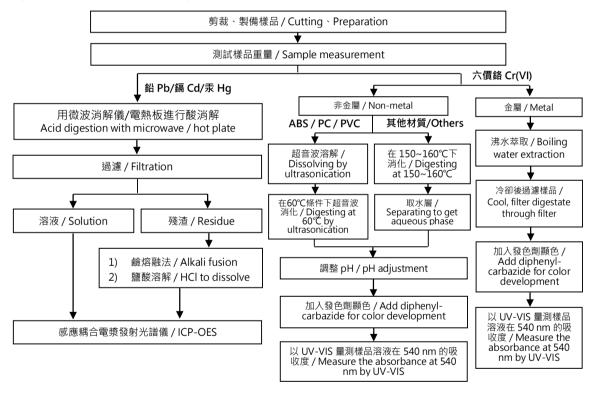
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重金屬流程圖 / Analytical flow chart of Heavy Metal

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)



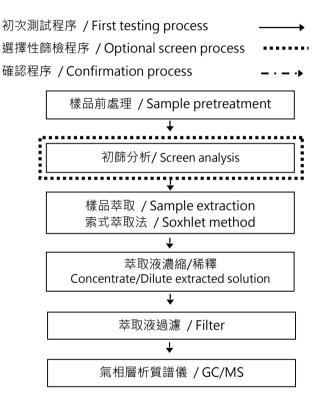


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多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs



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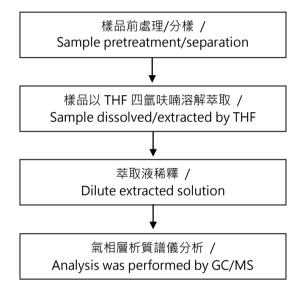
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可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



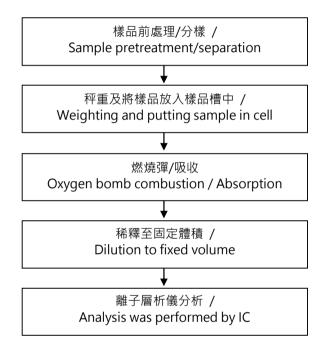


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鹵素分析流程圖 / Analytical flow chart - Halogen





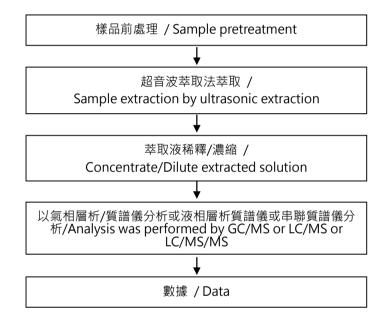
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全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)





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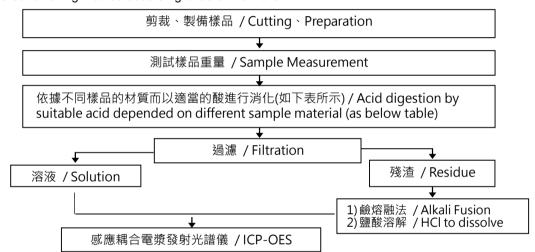
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元素以 ICP-OES 分析的消化流程圖

(Flow Chart of digestion for the elements analysis performed by ICP-OES)

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.



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 / HNO₃/HF
金,鉑,鈀,陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO₃
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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* 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.)

ETR22600633



** 報告結尾 (End of Report) **