

Test Report

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笙泉科技股份有限公司 (MEGAWIN TECHNOLOGY CO., LTD.)

新竹縣竹北市台元一街8號7樓之1 (7F-1, NO. 8, TAIYUAN 1ST ST., JHUBEI CITY, HSINCHU COUNTY 30288, 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):

樣品名稱(Sample Name) : SOP & SSOP & TSSOP & MSOP SERIES

收件日(Sample Receiving Date) : 15-May-2023

測試期間(Testing Period) : 15-May-2023 to 22-May-2023

測試需求(Test Requested) : 依據客戶指定,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, to test Cadmium, Lead, Mercury, Cr(VI), PBBs,

PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

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





PIN CODE: 08182A96



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測試部位敘述 (Test Part Description)

No.1 : 混測所有黑色本體 (MIXED ALL BLACK BODY)

No.2 : 混測所有銀色金屬 (含鍍層) (MIXED ALL SILVER COLORED METAL (INCLUDING THE PLATING

LAYER))

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	
				No.1	No.2
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013 · 以感應耦合電漿 發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	n.d.
鉛 (Pb) (Lead (Pb))	參考IEC 62321-5: 2013 · 以感應耦合電漿 發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	12.3
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013 + AMD1: 2017 · 以感應耦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.)	mg/kg	2	n.d.	n.d.
六價鉻 Cr(VI) (Hexavalent Chromium Cr(VI))	參考IEC 62321-7-2: 2017·以紫外光-可見 光分光光度計分析。(With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.)	mg/kg	8	n.d.	
六價鉻 (Hexavalent Chromium) Cr(VI) (#2)	參考IEC 62321-7-1: 2015·以紫外光-可見 光分光光度計分析。(With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	μg/cm²	0.1		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	No.2
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.	
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)	參考IEC 62321-6: 2015,以氣相層析儀/質	mg/kg	5	n.d.	
多溴聯苯總和 (Sum of PBBs)	譜儀分析。(With reference to IEC 62321-	mg/kg	1	n.d.	
一溴聯苯醚 (Monobromodiphenyl ether)	6: 2015, analysis was performed by	mg/kg	5	n.d.	
二溴聯苯醚 (Dibromodiphenyl ether)	GC/MS.)	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.	
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	1	n.d.	
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl		mg/kg	50	n.d.	
benzyl phthalate (BBP))					
鄰苯二甲酸二丁酯 (DBP) (Dibutyl	參考IEC 62321-8: 2017,以氣相層析儀/質	mg/kg	50	n.d.	
phthalate (DBP))	譜儀分析。(With reference to IEC 62321-				
鄰苯二甲酸二(2-乙基己基)酯 (DEHP)	8: 2017, analysis was performed by	mg/kg	50	n.d.	
(Di-(2-ethylhexyl) phthalate (DEHP))	GC/MS.)				
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl		mg/kg	50	n.d.	
phthalate (DIBP))					



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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. "---" = Not Conducted (未測試項目)
- 6. (#2) =
 - a. 當六價鉻結果大於 $0.13~\mu g/cm^2 \cdot$ 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 $0.13~\mu g/cm^2$. The sample coating is considered to contain Cr(VI).) b. 當六價鉻結果為n.d. (濃度小於 $0.10~\mu g/cm^2$) · 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 $0.10~\mu g/cm^2$). The coating is considered a non-Cr(VI) based coating) c. 當六價鉻結果介於 $0.10~\Delta~0.13~\mu g/cm^2$ 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.) 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。
- 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.



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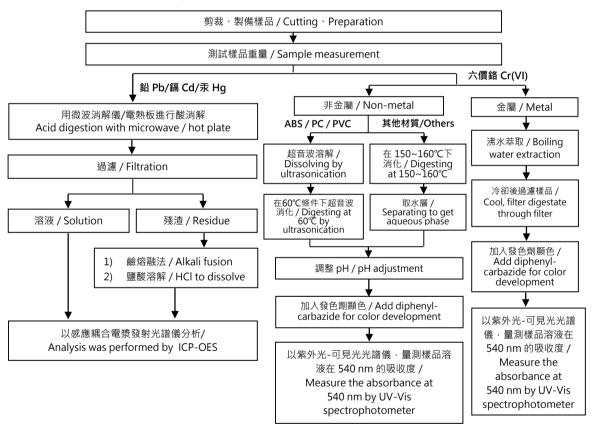
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重金屬流程圖 / Analytical flow chart of heavy metal

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)





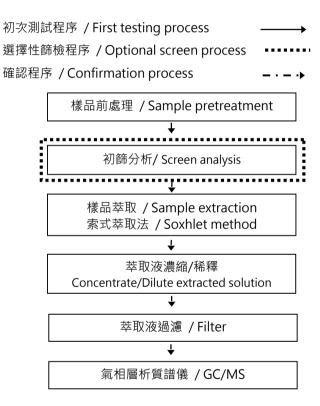
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多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs





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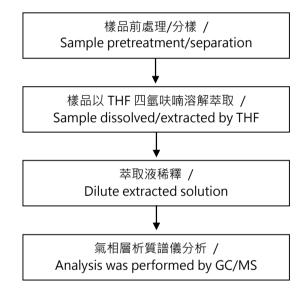
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可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】





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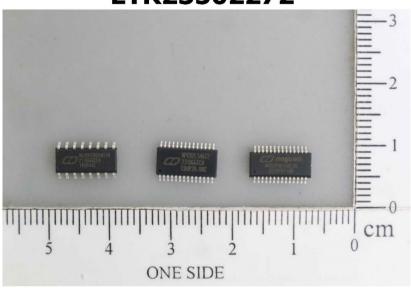
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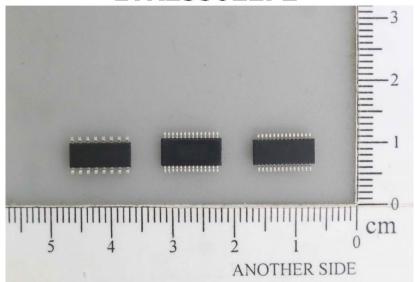
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* 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. * (The tested sample / part is marked by an arrow if it's shown on the photo.)

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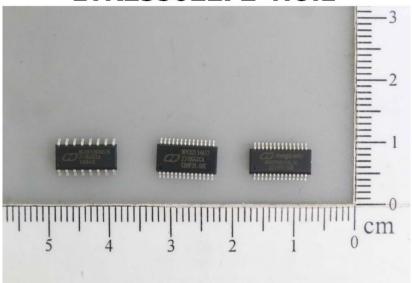
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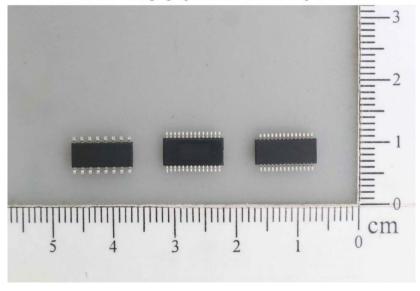
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ETR23502272 NO.1



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** 報告結尾 (End of Report) **

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