

Test Report

號碼(No.): ETR23702036M01 日期(Date): 12-Sep-2023 頁數(Page): 1 of 13

葆旺股份有限公司 (PRO WONDERFUL INCORPORATION) 台北市內湖區洲子街63號7樓 (7F., NO. 63, ZHOUZI ST., NEIHU DIST., TAIPEI, TAIWAN (R. O. C.))

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)

: 葆旺股份有限公司 (PRO WONDERFUL INCORPORATION)

樣品名稱(Sample Name)

: 塑膠粒子

樣品型號(Style/Item No.)

L-1225L \ L-1225Y \ L-1225Z100 \ L-1250Z100 \ L-1250Y \ AD5503 \ LN2250 \ LN2250Z \ LV2250Y \ K-1300Y \ L-1225LM \ MN4800(#) \ 2405 \ 2407 \ 2805 \ 2807 \ 2456 \ 2856 \ 3207 \ 123R \ 141R \ 143R \

1003R \ 1000R \ 1004R \ 2200R \ 0703R

收件日(Sample Receiving Date)

10-Jul-2023

(1)

測試期間(Testing Period)

: 10-Jul-2023 to 17-Jul-2023

測試需求(Test Requested)

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) 依據客戶指定,測試 PAHs 及其他測項。 (As specified by client, to test PAHs

and other item(s).)

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





PIN CODE: 221B4948



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測試部位敘述 (Test Part Description)

No.1 : 透明塑膠粒 (TRANSPARENT PLASTIC PELLETS)

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
鎘 (Cd) (Cadmium (Cd))	参考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	No.1 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.
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.
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.
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))		mg/kg	50	n.d.
- 鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))	参考IEC 62321-8: 2017・以氣相層析儀/質譜	mg/kg	50	n.d.
	儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		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
一溴聯苯 (Monobromobiphenyl)		mg/kg 5	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/質譜	mg/kg	5	n.d.
多溴聯苯總和 (Sum of PBBs)	参与IEC 02321-0. 2013・ 以来相信机 酸/負間 儀分析。(With reference to IEC 62321-6:	mg/kg	1	n.d.
一溴聯苯醚 (Monobromodiphenyl ether)	2015, analysis was performed by GC/MS.)	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)		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	-	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
多環芳香烴 (Polycyclic Aromatic				
Hydrocarbons) (PAHs)				
苯駢(a)芘 (Benzo[a]pyrene) (CAS No.:		mg/kg	0.2	n.d.
50-32-8)				
苯駢(e)芘 (Benzo[e]pyrene) (CAS No.:		mg/kg	0.2	n.d.
192-97-2)				
苯駢蒽 (Benzo[a]anthracene) (CAS No.:		mg/kg	0.2	n.d.
56-55-3)				
苯(b)苯駢芴 (Benzo[b]fluoranthene)		mg/kg	0.2	n.d.
(CAS No.: 205-99-2)				
苯(j)苯駢芴 (Benzo[j]fluoranthene) (CAS		mg/kg	0.2	n.d.
No.: 205-82-3)				
苯(k)苯駢芴 (Benzo[k]fluoranthene)		mg/kg	0.2	n.d.
(CAS No.: 207-08-9)	參考AfPS GS 2019:01 PAK,以氣相層析儀/			
菌 (Chrysene) (CAS No.: 218-01-9)	質譜儀分析。(With reference to AfPS GS	mg/kg	0.2	n.d.
二苯駢蒽 (Dibenzo[a,h]anthracene)	2019:01 PAK, analysis was performed by	mg/kg	0.2	n.d.
(CAS No.: 53-70-3)	GC/MS.)			
苯駢菲 (Benzo[g,h,i]perylene) (CAS No.:		mg/kg	0.2	n.d.
191-24-2)				
茚酮芘 (Indeno[1,2,3-c,d]pyrene) (CAS		mg/kg	0.2	n.d.
No.: 193-39-5)				
蒽 (Anthracene) (CAS No.: 120-12-7)		mg/kg	0.2	n.d.
苯駢芴 (Fluoranthene) (CAS No.: 206-		mg/kg	0.2	n.d.
44-0)				
菲 (Phenanthrene) (CAS No.: 85-01-8)		mg/kg	0.2	n.d.
芘 (Pyrene) (CAS No.: 129-00-0)		mg/kg	0.2	n.d.
萘 (Naphthalene) (CAS No.: 91-20-3)		mg/kg	0.2	n.d.
多環芳香烴15項總和 (Sum of 15 PAHs)		mg/kg	-	n.d.
苊烯 (Acenaphthylene) (CAS No.: 208-	參考AfPS GS 2019:01 PAK,以氣相層析儀/	mg/kg	0.2	n.d.
96-8)	質譜儀分析。(With reference to AfPS GS			
苊 (Acenaphthene) (CAS No.: 83-32-9)	2019:01 PAK, analysis was performed by	mg/kg	0.2	n.d.
芴 (Fluorene) (CAS No.: 86-73-7)	GC/MS.)	mg/kg	0.2	n.d.



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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
六溴環十二烷及所有主要被辨別出的異構物(HBCDD) (α - HBCDD, β - HBCDD, γ - HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, β - HBCDD, γ - 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.
氟 (F) (Fluorine (F)) (CAS No.: 14762-94-8)		mg/kg	50	n.d.
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537- 15-1)	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.
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.

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. 本報告為 ETR23702036 之異動報告。(This is the additional test report of ETR23702036.)



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PAHs Remark:

△ 德國產品安全委員會(AfPS): GS PAHs 要求

AfPS (German commission for Product Safety): GS PAHs requirements

	第 1 類(Category 1)	gry 1) 第 2 類(Category 2)		第 3 類(Category 3)		
項目 (Parameter)		不屬於第 1 類的材料·並意圖或可預 見與皮膚接觸逾 30 秒(長期皮膚接觸)		不屬於第 1 類或第 2 類的材料·並意 圖或可預見與皮膚接觸不超過 30 秒 (短期皮膚接觸)(Materials not covered by Category 1 or 2, with		
	years of age with intended long-term skin contact (> 30 seconds))	a. 供 14 歲以下兒童使 用的產品(Use by children under 14)	其它產品(Other consumer	a. 供 14 歲以下兒童使 用的產品(Use by children under 14)	consumer	
Naphthalene	< 1	< 2		< 10		
Phenanthrene						
Anthracene	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum	
Fluoranthene	\ 1 3uiii	< 3 3um	\ 10 3uiii	< 20 Julii	\ 30 3uiii	
Pyrene						
Benzo[a]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Chrysene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[b]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[j]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[k]fluoranthene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[a]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[e]pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Indeno[1,2,3-c,d] pyrene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Dibenzo[a,h]anthracene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo[g,h,i]perylene	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
15 項 PAH 總濃度 (Sum of 15 PAH)	< 1	< 5	< 10	< 20	< 50	

單位(Unit):mg/kg



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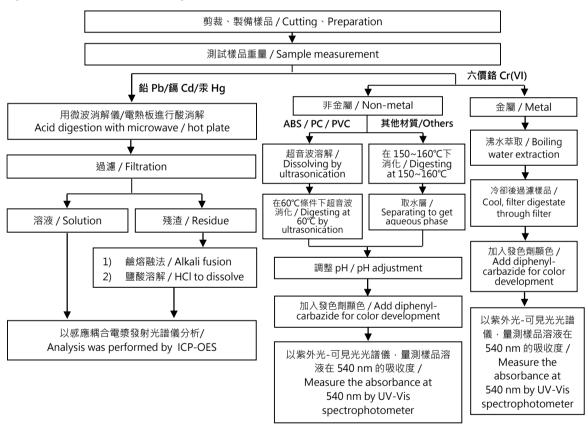
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重金屬流程圖 / Analytical flow chart of heavy metal

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)



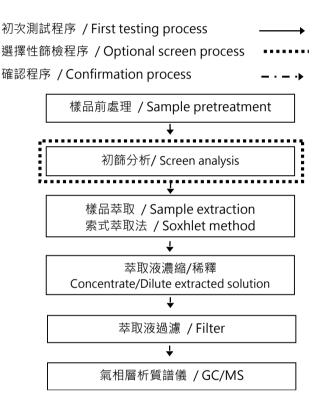


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多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs





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

【測試方法/Test method: IEC 62321-8】

樣品前處理/分樣 /
Sample pretreatment/separation

樣品以 THF 四氫呋喃溶解萃取 /
Sample dissolved/extracted by THF

萃取液稀釋 /
Dilute extracted solution

氣相層析質譜儀分析 /
Analysis was performed by GC/MS

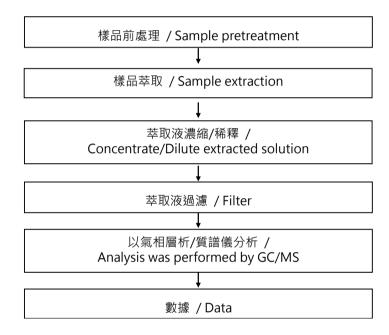


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六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD



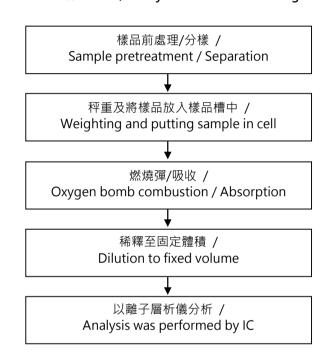


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鹵素分析流程圖 / Analytical flow chart - Halogen



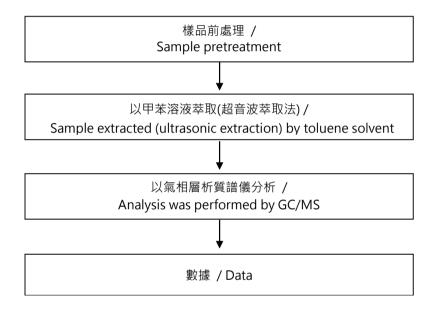


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多環芳香烴分析流程圖 / Analytical flow chart - PAHs (Polycyclic Aromatic Hydrocarbons)





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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.)

ETR23702036



** 報告結尾 (End of Report) **