

測試報告

號碼：CE/2010/90269A

日期：2010/09/07

頁數：1 of 9

台灣化學纖維股份有限公司
台北市敦化北路201號



以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下：

樣品名稱：聚苯乙烯樹脂
樣品型號：TAIRIREX GP5250, GP5350, MP6500
收件日期：2010/09/01
測試期間：2010/09/01 TO 2010/09/07

=====
測試結果：請見下一頁。

結論：
1. 根據客戶所提供的樣品，其鎘、鉛、汞、六價鉻、多溴聯苯及多溴聯苯醚的測試結果符合RoHS(2002/95/EC)及其修定指令之要求。
2. 根據客戶所提供的樣品，其多苯環芳香族化合物的測試結果符合德國ZLS的ZEK 01.2-08及其相關修訂文件中的第1類PAHs要求。



Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

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測試結果

測試部位 No.1 : 透明色塑膠粒 (GP5250)
 測試部位 No.2 : 透明色塑膠粒 (GP5350)
 測試部位 No.3 : 白色塑膠粒 (MP6500)

測試項目	單位	測試方法	方法偵測 極限值	結果			法規 限值
				No.1	No.2	No.3	
鎊	mg/kg	參考 IEC 62321: 2008 方法, 以感應耦合電漿原子發射光譜儀 (ICP-AES) 檢測。	2	n.d.	n.d.	n.d.	100
鉛	mg/kg	參考 IEC 62321: 2008 方法, 以感應耦合電漿原子發射光譜儀 (ICP-AES) 檢測。	2	n.d.	n.d.	n.d.	1000
汞	mg/kg	參考 IEC 62321: 2008 方法, 以感應耦合電漿原子發射光譜儀 (ICP-AES) 檢測。	2	n.d.	n.d.	n.d.	1000
六價鉻 (Alkaline extraction)	mg/kg	參考 IEC 62321: 2008 方法, 以 UV-VIS 檢測。	2	n.d.	n.d.	n.d.	1000
多溴聯苯總和	mg/kg	參考 IEC 62321: 2008 方法, 以氣相層析儀/質譜儀 (GC/MS) 檢測。	-	n.d.	n.d.	n.d.	1000
一溴聯苯			5	n.d.	n.d.	n.d.	-
二溴聯苯			5	n.d.	n.d.	n.d.	-
三溴聯苯			5	n.d.	n.d.	n.d.	-
四溴聯苯			5	n.d.	n.d.	n.d.	-
五溴聯苯			5	n.d.	n.d.	n.d.	-
六溴聯苯			5	n.d.	n.d.	n.d.	-
七溴聯苯			5	n.d.	n.d.	n.d.	-
八溴聯苯			5	n.d.	n.d.	n.d.	-
九溴聯苯			5	n.d.	n.d.	n.d.	-
十溴聯苯			5	n.d.	n.d.	n.d.	-
多溴聯苯醚總和			-	n.d.	n.d.	n.d.	1000
一溴聯苯醚			5	n.d.	n.d.	n.d.	-
二溴聯苯醚			5	n.d.	n.d.	n.d.	-
三溴聯苯醚			5	n.d.	n.d.	n.d.	-
四溴聯苯醚			5	n.d.	n.d.	n.d.	-
五溴聯苯醚			5	n.d.	n.d.	n.d.	-
六溴聯苯醚			5	n.d.	n.d.	n.d.	-
七溴聯苯醚			5	n.d.	n.d.	n.d.	-
八溴聯苯醚			5	n.d.	n.d.	n.d.	-
九溴聯苯醚			5	n.d.	n.d.	n.d.	-
十溴聯苯醚	5	n.d.	n.d.	n.d.	-		

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測試項目	單位	測試方法	方法偵測 極限值	結果			法規 限值
				No.1	No.2	No.3	
多苯環芳香族化合物 (PAHs)							
Acenaphthene (CAS No.: 000083-32-9)	mg/kg	參考ZLS standard ZEK 01.2-08 方法, 以氣相層析/質譜儀 (GC/MS)檢測.	0.2	n.d.	n.d.	n.d.	-
Acenaphthylene (CAS No.: 000208-96-8)			0.2	n.d.	n.d.	n.d.	-
Anthracene (CAS No.: 000120-12-7)			0.2	n.d.	n.d.	n.d.	-
Benzo[a]anthracene (CAS No.: 000056-55-3)			0.2	n.d.	n.d.	n.d.	-
Benzo[a]pyrene (CAS No.: 000050-32-8)			0.2	n.d.	n.d.	n.d.	-
Benzo[b]fluoranthene (CAS No.: 000205-99-2)			0.2	n.d.	n.d.	n.d.	-
Benzo[g,h,i]perylene (CAS No.: 000191-24-2)			0.2	n.d.	n.d.	n.d.	-
Benzo[k]fluoranthene (CAS No.: 000207-08-9)			0.2	n.d.	n.d.	n.d.	-
Chrysene (CAS No.: 000218-01-9)			0.2	n.d.	n.d.	n.d.	-
Dibenzo[a,h]anthracene (CAS No.: 000053-70-3)			0.2	n.d.	n.d.	n.d.	-
Fluoranthene (CAS No.: 000206-44-0)			0.2	n.d.	n.d.	n.d.	-
Fluorene (CAS No.: 000086-73-7)			0.2	n.d.	n.d.	n.d.	-
Indeno[1,2,3-c,d] pyrene (CAS No.: 000193-39-5)			0.2	n.d.	n.d.	n.d.	-
Naphthalene (CAS No.: 000091-20-3)			0.2	n.d.	n.d.	n.d.	-
Phenanthrene (CAS No.: 000085-01-8)			0.2	n.d.	n.d.	n.d.	-
Pyrene (CAS No.: 000129-00-0)			0.2	n.d.	n.d.	n.d.	-
多苯環芳香族化合物16項總和	-	-	n.d.	n.d.	n.d.	-	

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備註：

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

參考資料：

依據ZEK 01.2-08之要求：產品中最大值為

項目	第1類	第2類	第3類
	與食品接觸或放入嘴內的材料，以及給三歲以下的幼兒使用的玩具。	持續地(長時間)與皮膚接觸逾30秒，以及不屬第1類的玩具。	暫時地(短時間)與皮膚接觸但不逾30秒或不會與皮膚接觸。
苯駢(a)芘 Benzo[a]pyrene (mg/kg)	<MDL (<0.2)**	1	20
環保署規範16項PAH 總濃度 (mg/kg)*	<MDL (<0.2)**	10	200

注意：* = PAH濃度大於0.2mg/kg時，則須計算PAH總濃度值

** = 最大濃度值超出等級一的限制，但在等級二的濃度限制值內時，可能需要確認測試材質是否合適於食品容器或是依照DIN EN1186ff/ § 64 LFGB 80.30-1方法，針對特定PAH的遷移測試進行測試。遷移測試的結論需依照食品法規規範。

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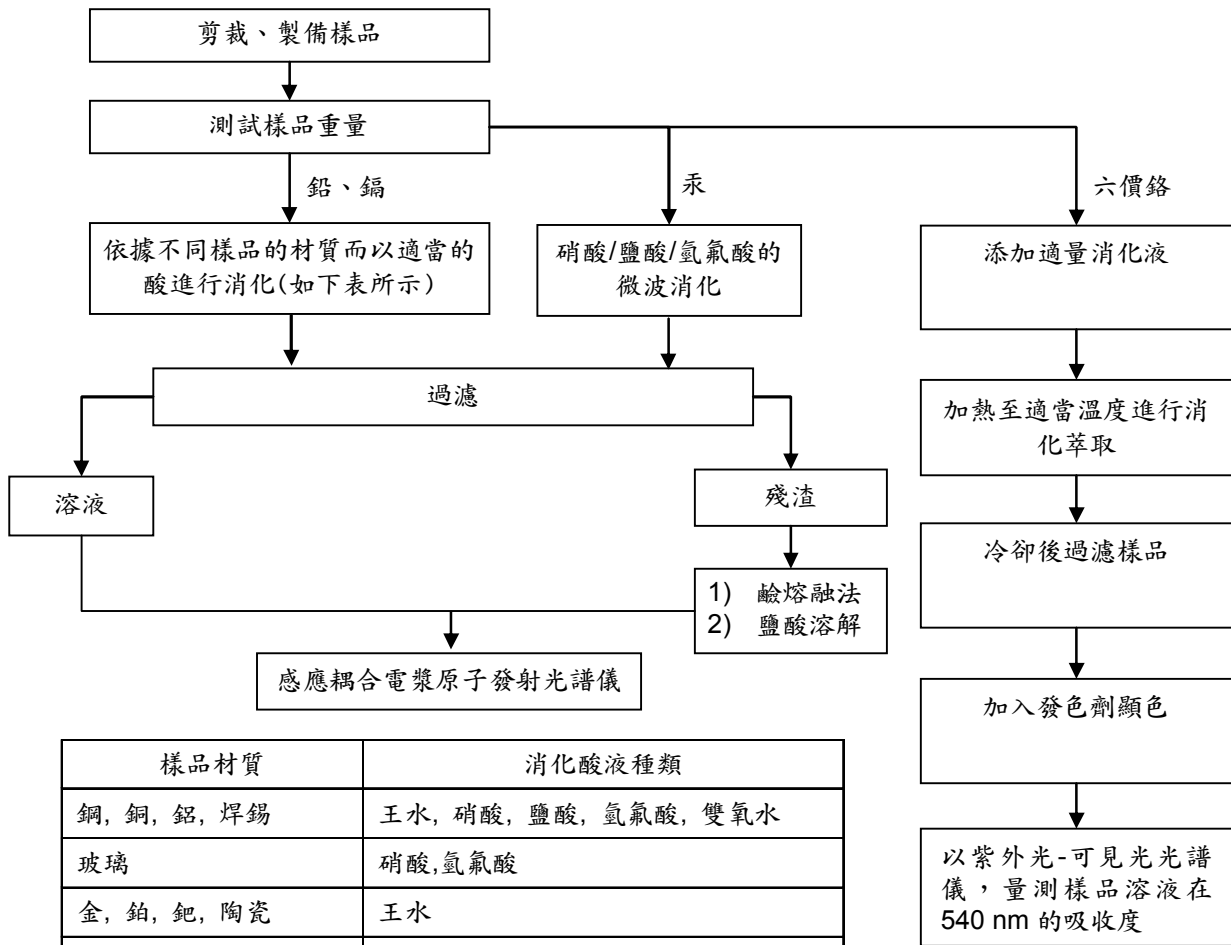
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- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外)
- 2) 測試人員：楊登偉
- 3) 測試負責人：張啓興



樣品材質	消化酸液種類
鋼, 銅, 鋁, 焊錫	王水, 硝酸, 鹽酸, 氫氟酸, 雙氧水
玻璃	硝酸, 氫氟酸
金, 鉑, 鈀, 陶瓷	王水
銀	硝酸
塑膠	硫酸, 雙氧水, 硝酸, 鹽酸
其他	加入任何酸至完全溶解

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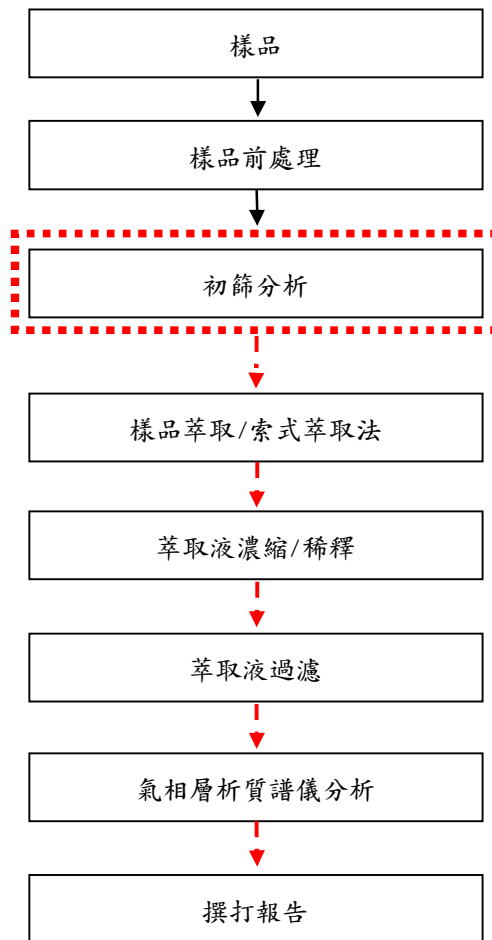
分析流程圖

1)測試人員：翁賜彬

2)測試負責人：張啓興

■ 測試項目：多溴聯苯/多溴聯苯醚，四溴雙酚-A-雙

初次測試程序 ———▶ 選擇性篩檢程序 確認程序 - - - ▶



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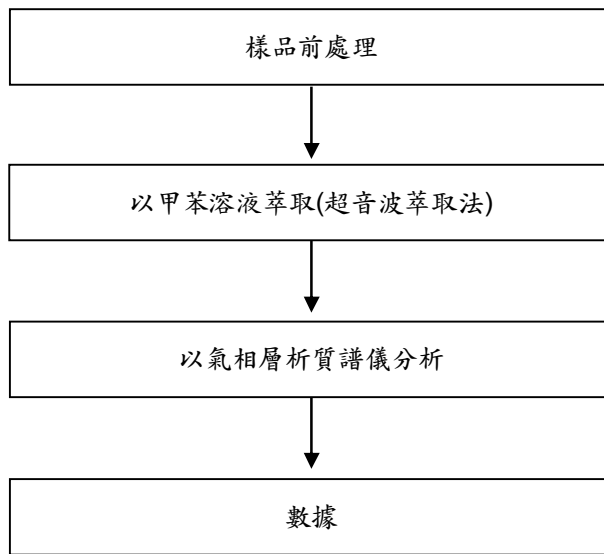
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多苯環芳香族化合物分析流程圖

- 1) 測試人員：徐毓明
- 2) 測試負責人：陳新智



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CE/2010/90269-01



CE/2010/90269-02



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CE/2010/90269-03



** 報告結尾 **

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