

## 測試報告

號碼：CE/2007/18596

日期：2007/02/07

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長春人造樹脂廠股份有限公司

CHANG CHUN PLASTIC CO., LTD.

CHANG CHUN CHEMICAL (ZHANGZHOU) CO., LTD.

台北市中山區松江路301號7樓

7TH FL., 301 SONG KIANG ROAD, TAIPEI, TAIWAN, R. O. C.

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(The following sample(s) was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : POLYBUTYLENE TEREPHTHALATE (PBT)  
樣品型號(Style/Item No.) : PBT (2000, 2000T, 2100, 4108, 4115, 4115F, 4120, 4130, 4130F, 4140, 4815, 4820, 4830, 4840, 4815G, 4830G, 8815, 8830)  
電話/傳真/e-mail(TEL/FAX/e-mail) : 886-2-25001883 / 886-2-25187964 / tlin@ccp.com.tw  
聯絡人(Contact Person) : TACIAL LIN  
收件日期(Sample Receiving Date) : 2007/01/31  
測試期間(Testing Period) : 2007/01/31 TO 2007/02/07

=====  
**測試需求 / Test Requested** : 參照 RoHS 2002/95/EC 及其修定指令要求。 / In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.  
**測試方法 / Test Method** : 參考 IEC 62321, Ed. 1 111/54/CDV 方法檢測。 / With reference to IEC 62321, Ed.1 111/54/CDV. Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.  
(1) 用感應耦合電漿原子發射光譜儀檢測鎘含量。 / Determination of Cadmium by ICP-AES.  
(2) 用感應耦合電漿原子發射光譜儀檢測鉛含量。 / Determination of Lead by ICP-AES.  
(3) 用感應耦合電漿原子發射光譜儀檢測汞含量。 / Determination of Mercury by ICP-AES.  
(4) 針對非金屬材質之樣品，用 UV-VIS 檢測六價鉻含量。 / Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.  
(5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / Determination of PBB and PBDE by GC/MS.  
**測試結果 / Test Result(s)** : 請見下一頁。  
**結論 / Conclusion** : 根據客戶所提供樣品的測試結果，符合 RoHS(2002/95/EC) 及其修定指令之要求。 / Based on the performed tests on submitted samples, the test results are **compliant with** the limits of RoHS Directive 2002/95/EC and its subsequent amendments.

  
Daniel Yeh, M.R. / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

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測試結果 (單位: mg/kg) / Test Result(s)



測試項目 / Test Item (s):	測試方法 Method (Refer to)	結果 / Result	方法偵測 極限值 (MDL)	RoHS 限值
		No.1		
鎘 / Cadmium (Cd)	(1)	n.d.	2	100
鉛 / Lead (Pb)	(2)	8.4	2	1000
汞 / Mercury (Hg)	(3)	n.d.	2	1000
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2	1000
<b>多溴聯苯總和 / Sum of PBBs</b>	(5)	n.d.	-	1000
一溴聯苯 / Monobromobiphenyl		n.d.	5	-
二溴聯苯 / Dibromobiphenyl		n.d.	5	-
三溴聯苯 / Tribromobiphenyl		n.d.	5	-
四溴聯苯 / Tetrabromobiphenyl		n.d.	5	-
五溴聯苯 / Pentabromobiphenyl		n.d.	5	-
六溴聯苯 / Hexabromobiphenyl		n.d.	5	-
七溴聯苯 / Heptabromobiphenyl		n.d.	5	-
八溴聯苯 / Octabromobiphenyl		n.d.	5	-
九溴聯苯 / Nonabromobiphenyl		n.d.	5	-
十溴聯苯 / Decabromobiphenyl		n.d.	5	-
<b>多溴聯苯醚總和 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)</b>		n.d.	-	1000
一溴聯苯醚 / Monobromobiphenyl ether		n.d.	5	-
二溴聯苯醚 / Dibromobiphenyl ether		n.d.	5	-
三溴聯苯醚 / Tribromobiphenyl ether		n.d.	5	-
四溴聯苯醚 / Tetrabromobiphenyl ether		n.d.	5	-
五溴聯苯醚 / Pentabromobiphenyl ether		n.d.	5	-
六溴聯苯醚 / Hexabromobiphenyl ether		n.d.	5	-
七溴聯苯醚 / Heptabromobiphenyl ether		n.d.	5	-
八溴聯苯醚 / Octabromobiphenyl ether		n.d.	5	-
九溴聯苯醚 / Nonabromobiphenyl ether	n.d.	5	-	
十溴聯苯醚 / Decabromobiphenyl ether	n.d.	5	-	
<b>多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)</b>	n.d.	-	-	

## 測試部位描述 / TEST PART DESCRIPTION:

NO.1 : 黑色塑膠粒 / BLACK PLASTIC PELLETS

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Note： 1. mg/kg = ppm

2. n.d. = Not Detected / 未檢出

3. MDL = Method Detection Limit / 方法偵測極限值

4. According to 2005/717/EC DecaBDE is exempt.

根據2005年10月13日歐盟會議公佈2005/717/EC，修訂2002/95/EC內容，通過解除  
高分子材質中十溴聯苯醚之使用限制。

5. "-" = Not Regulated / 無規格值

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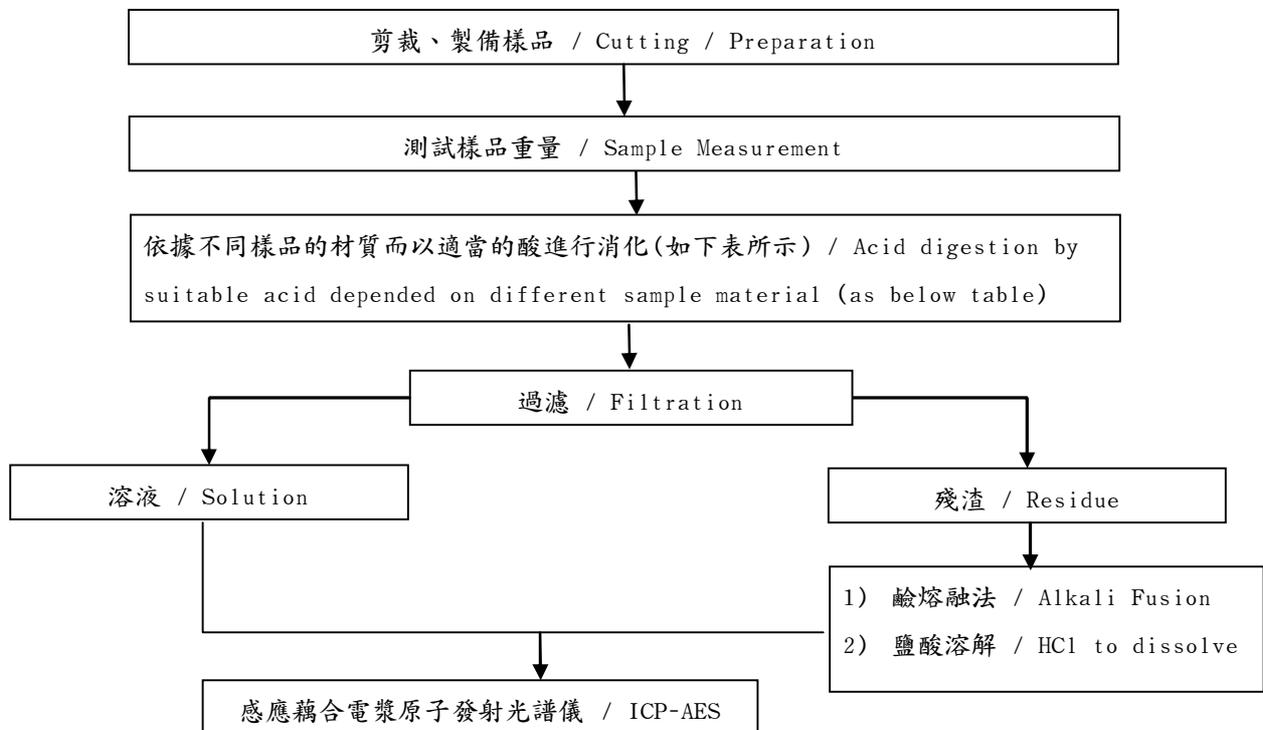
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- 1) 根據以下的流程圖之條件，樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
- 3) 測試負責人：葉禮源 / Name of the person in charge of measurement: Daniel Yeh

### 鎘、鉛的消化流程圖 / Method 1: Flow Chart of Digestion for Cd、Pb analysis



鋼, 銅, 鋁, 焊錫 / Steel, copper, aluminum, solder	王水, 硝酸, 鹽酸, 氫氟酸, 雙氧水 / Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
玻璃 / Glass	硝酸, 氫氟酸 / HNO <sub>3</sub> /HF
金, 鉑, 鈀, 陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO <sub>3</sub>
塑膠 / Plastic	硫酸, 雙氧水, 硝酸, 鹽酸 / H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

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\*\* 報告結尾 \*\*