測試報告
Test Report

號碼(No.) : CE/2007/C4707　　日期(Date) : 2007/12/24　　頁數(Page) : 1 of 9

南亞塑膠工業股份有限公司
NAN YA PLASTICS CORPORATION
台灣台北市敦化北路201號
201 TUNG HWA NORTH ROAD, TAIPEI, TAIWAN

以下測試樣品係由客户送樣，且由客户聲稱並經客户確認如下 (The following samples was/were submitted and identified by/on behalf of the client as)：

樣品名稱(Sample Description)	:	LAMINATE
樣品型號(Style/Item No.)	:	UV BLOCK FR-4-86 / NP-140TL / NP-140B
收件日期(Sample Receiving Date)	:	2007/12/18
測試期間(Testing Period)	:	2007/12/18 TO 2007/12/24

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測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

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

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測試結果(Test Results)

測試部位(PART NAME) NO.1 : 黃色基板及其上紅色印刷 (YELLOW LAMINATE WITH RED PRINTING)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限值 (MDL)	結果 (Result) NO.1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV 方法, 用感應藕合電漿原子發射光譜儀 (ICP-AES) 檢測鎘含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV 方法, 用感應藕合電漿原子發射光譜儀 (ICP-AES) 檢測鉛含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV 方法, 用感應藕合電漿原子發射光譜儀 (ICP-AES) 檢測汞含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	針對非金屬材質之樣品, 參考IEC 62321, Ed. 1 111/54/CDV 方法檢測, 用UV-VIS檢測六價鉻含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限值 (MDL)	結果 (Result) NO.1
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321, Ed. 1 111/54/CDV方法，以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量. / With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	n.d.
一溴聯苯 / Monobromobiphenyl			5	n.d.
二溴聯苯 / Dibromobiphenyl			5	n.d.
三溴聯苯 / Tribromobiphenyl			5	n.d.
四溴聯苯 / Tetrabromobiphenyl			5	n.d.
五溴聯苯 / Pentabromobiphenyl			5	n.d.
六溴聯苯 / Hexabromobiphenyl			5	n.d.
七溴聯苯 / Heptabromobiphenyl			5	n.d.
八溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl			5	n.d.
十溴聯苯 / Decabromobiphenyl			5	n.d.
多溴聯苯醚總和（一至九溴）/ Sum of PBDEs (Mono to Nona) (Note 4)			-	n.d.
一溴聯苯醚 / Monobromobiphenyl ether			5	n.d.
二溴聯苯醚 / Dibromobiphenyl ether			5	n.d.
三溴聯苯醚 / Tribromobiphenyl ether			5	n.d.
四溴聯苯醚 / Tetrabromobiphenyl ether			5	n.d.
五溴聯苯醚 / Pentabromobiphenyl ether			5	n.d.
六溴聯苯醚 / Hexabromobiphenyl ether			5	n.d.
七溴聯苯醚 / Heptabromobiphenyl ether			5	n.d.
八溴聯苯醚 / Octabromobiphenyl ether			5	n.d.
九溴聯苯醚 / Nonabromobiphenyl ether			5	n.d.
十溴聯苯醚 / Decabromobiphenyl ether			5	n.d.
多溴聯苯醚總和（一至十溴）/ Sum of PBDEs (Mono to Deca)			-	n.d.
可塑劑定量分析 / Phthalates	---	---	---	---
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 000084-74-2)	%	本測試參考期刊Chromatographia Vol.47, No.784, 1998. ，以氣相層析儀/質譜儀檢測之（參考歐盟規範 2005/84/EC) / With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS. (prohibited by 2005/84/EC) .	0.003	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限值 (MDL)	結果 (Result) NO.1
鄰苯二甲酸二異壬酯 / DINP (Di-isononyl phthalate) (CAS No.: 028553-12-0)	%	本測試參考期刊Chromatographia Vol.47, No.784, 1998. ，以氣相層析儀/質譜儀檢測之 (參考歐盟規範 2005/84/EC) / With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS. (prohibited by 2005/84/EC) .	0.003	n.d.
鄰苯二甲酸二 (2-乙基己基)酯 / DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 000117-81-7)	%	本測試參考期刊Chromatographia Vol.47, No.784, 1998. ，以氣相層析儀/質譜儀檢測之 (參考歐盟規範 2005/84/EC) / With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS. (prohibited by 2005/84/EC) .	0.003	n.d.
鄰苯二甲酸二異癸酯 / DIDP (Di-isodecyl phthalate) (CAS No.: 026761-40-0)	%	本測試參考期刊Chromatographia Vol.47, No.784, 1998. ，以氣相層析儀/質譜儀檢測之 (參考歐盟規範 2005/84/EC) / With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS. (prohibited by 2005/84/EC) .	0.003	n.d.
鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No.: 000117-84-0)	%	本測試參考期刊Chromatographia Vol.47, No.784, 1998. ，以氣相層析儀/質譜儀檢測之 (參考歐盟規範 2005/84/EC) / With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS. (prohibited by 2005/84/EC) .	0.003	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限值 (MDL)	結果 (Result) NO.1
鄰苯二甲酸丁酯苯甲酯 / BBP (Benzyl butyl phthalate) (CAS No.: 000085-68-7)	%	本測試參考期刊Chromatographia Vol.47, No.784, 1998. ，以氣相層析儀/質譜儀檢測之 (參考歐盟規範 2005/84/EC) / With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS. (prohibited by 2005/84/EC) .	0.003	n.d.

備註(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. 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. (According to 2005/717/EC DecaBDE is exempt.)
5. "-" = Not Regulated (無規格值)
6. "---" = Not Conducted (未測項目)
7. 依據2005/84/EC所公布76/769/EEC指令之第二次修正會議提及，3種可塑劑DEHP，DBP與BBP之總含量不可大於0.1%，另3種可塑劑DINP，DIDP及DNOP之總含量亦不可大於0.1% (Amending for the 22nd Council Directive 76/769/EEC notified under document 2005/84/EC, total concentration of three compounds DEHP, DBP and BBP shall not be greater than 0.1% and total concentration of three compounds DINP, DIDP and DNOP shall not be greater than 0.1%.)
8. 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 samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value)

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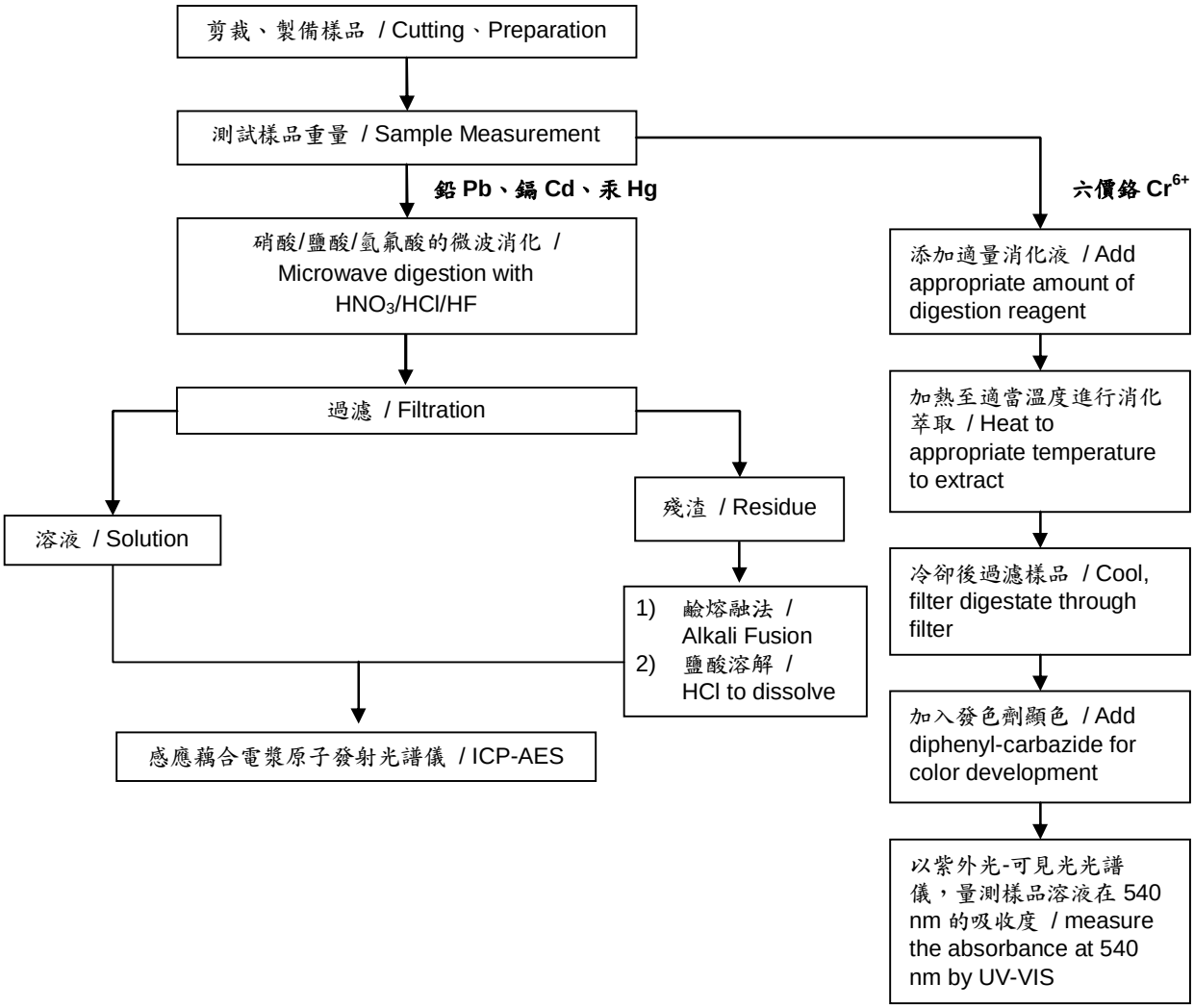
1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart.（Cr^{6+} test method excluded）
2) 測試人員：張啓興 / Name of the person who made measurement: Troy Chang
3) 測試負責人：龔振裕 / Name of the person in charge of measurement: Chenyu Kung



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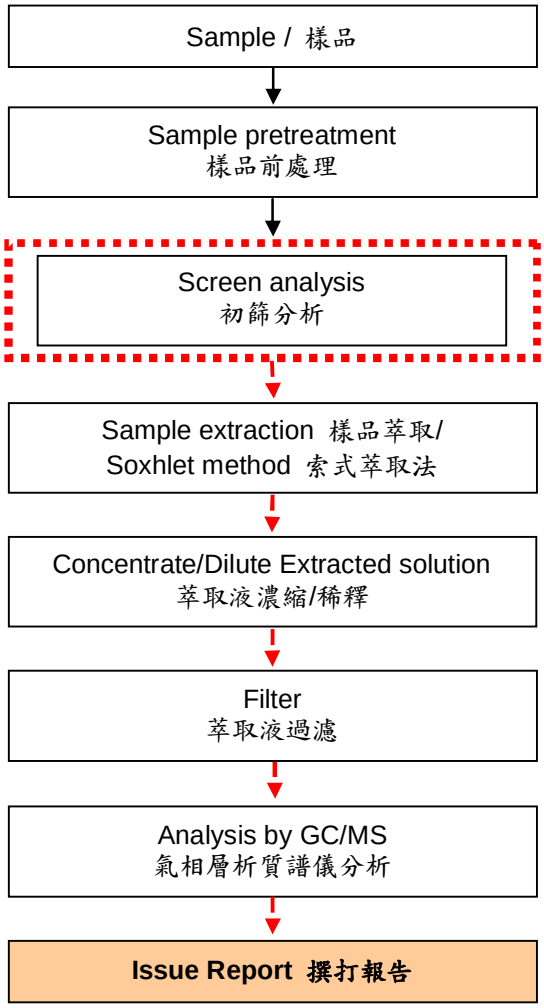
多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

初次測試程序 / First testing process

選擇性篩檢程序 / Optional screen process

確認程序 / Confirmation process



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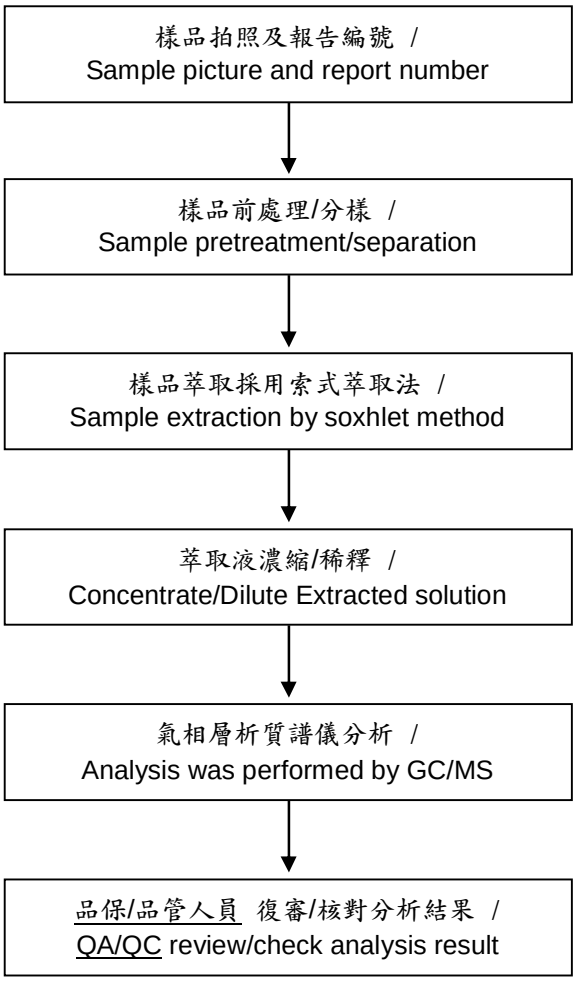
可塑劑分析流程圖 / Analytical flow chart of phthalate content



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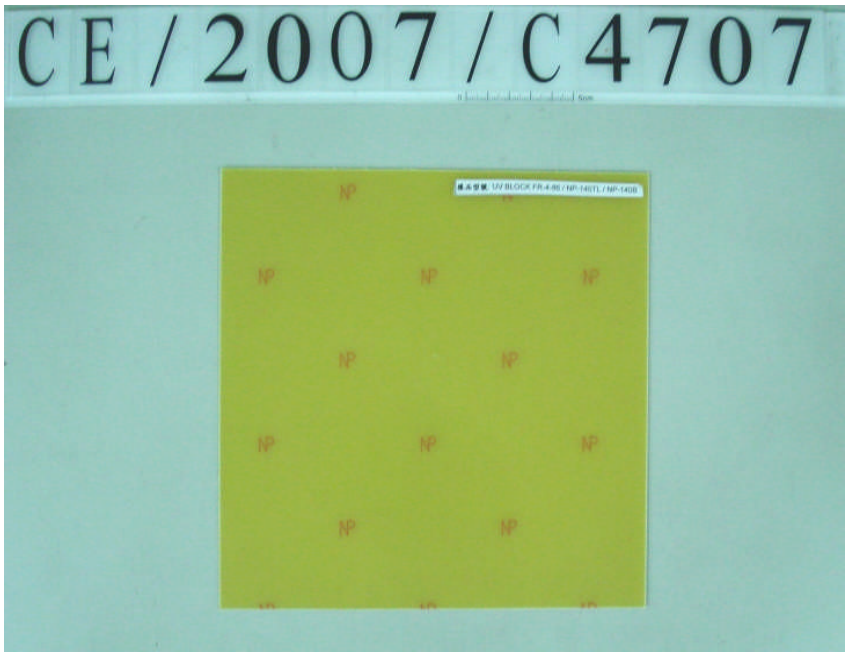

** 報告結尾 **

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