

測試報告 Test Report

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力鵬企業股份有限公司
LI PENG ENTERPRISE CO., LTD.
台北市松江路162號5樓
5F, NO. 162, SUNG CHANG RD., TAIPEI 104, TAIWAN



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 samples was/were submitted and identified by/on behalf of the client as) :

樣品名稱(Sample Description) : 力寶龍尼龍粒 (LIBOLON PA 6 CHIP)
樣品型號(Style/Item No.) : 尼龍粒 (PA 6 CHIP)
收件日期(Sample Receiving Date) : 2009/02/26
測試期間(Testing Period) : 2009/02/26 TO 2009/03/05

=====
測試需求(Test Requested) : 15項高關注物質(SVHC)篩檢以及額外的環十二烷是依客戶特定要求
高關注物質(SVHC)清單是根據歐洲化學總署(ECHA)於2008年10月28日，就關於REACH之Regulation (EC) No 1907/2006的公告。/ Fifteen (15) Substances of Very High Concern (SVHC) screening in addition of cyclododecane by specific client's request.
SVHC list based on the publication by European Chemicals Agency (ECHA) on 2008 October 28, regarding Regulation (EC) No 1907/2006 concerning the REACH.
測試方法(Test Method) : 請見下一頁 (Please refer to next pages).
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 : 半透明白色塑膠粒 (TRANSLUCENT-WHITE PLASTIC PELLETS)

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
蒽/ Anthracene (CAS No.: 000120-12-7)	mg/kg	參考ZLS standard ZEK 01.2-08方法, 以氣相層析質譜儀檢測. / With reference to ZEK 01.2-08. Analyzed by GC/MS.	0.2	n.d.
4,4' - 二氨基二苯甲烷 / 4,4' - Diaminodiphenylmethane (CAS No.: 000101-77-9)	mg/kg	參考EN 14362-1: 2003方法, 以氣相層析質譜儀檢測. / With reference to EN 14362-1: 2003. Analyzed by GC/MS.	20	n.d.
鄰苯二甲酸二丁酯 / Dibutyl phthalate (DBP) (CAS No.: 000084-74-2)	%	參考EN 14372:2004, 以氣相層析儀質譜儀檢測. / With reference to EN 14372: 2004. Analyzed by GC/MS.	0.003	n.d.
鄰苯二甲酸丁酯苯甲酯 / Benzyl butyl phthalate (BBP) (CAS No.: 000085-68-7)	%	參考EN 14372:2004, 以氣相層析儀質譜儀檢測. / With reference to EN 14372: 2004. Analyzed by GC/MS.	0.003	n.d.
鄰苯二甲酸二(2-乙基己基)酯 / Bis (2-ethylhexyl) phthalate (DEHP) (CAS No.: 000117-81-7)	%	參考EN 14372:2004, 以氣相層析儀質譜儀檢測. / With reference to EN 14372: 2004. Analyzed by GC/MS.	0.003	n.d.
二甲苯麝香 / 5-tert-butyl-2,4,6-trinitro- m-xylene (Musk Xylene) (CAS No.: 000081-15-2)	mg/kg	參考US EPA 3550C:1996方法, 以氣相層析質譜儀檢測. / With reference to US EPA 3550C:1996. Analyzed by GC/MS.	10	n.d.
六溴環十二烷及所有主要被辨別出的異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, β - HBCDD, γ - HBCDD) (CAS No.: 025637-99-4 and 003194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	參考US EPA 3540C:1996方法, 以氣相層析質譜儀檢測. / With reference to US EPA 3540C:1996. Analyzed by GC/MS.	5	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
短鏈氯化石蠟 / Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 085535-84-8)	mg/kg	參考US EPA 3540C:1996方法, 以氣相層析質譜儀檢測. / With reference to US EPA 3540C:1996. Analyzed by GC/MS.	100	n.d.
三丁基錫氧化物 / Bis(tributyltin)oxide*** (CAS No.: 000056-35-9)	mg/kg	參考ISO 17353: 2004方法, 以氣相層析儀/火焰光度偵測器檢測./ With reference to BS ISO 17353: 2004. Analyzed by GC/FPD.	0.03	n.d.
氯化鈷 / Cobalt dichloride*** (CAS No.: 007646-79-9)	mg/kg	參考US EPA 3052:1996方法, 用感應耦合電漿原子發射光譜儀檢測. / With reference to US EPA 3052:1996. Analyzed by ICP-AES.	2	n.d.
五氧化二砷 / Diarsenic pentaoxide*** (CAS No.: 001303-28-2)	mg/kg	參考US EPA 3052:1996方法, 用感應耦合電漿原子發射光譜儀檢測. / With reference to US EPA 3052:1996. Analyzed by ICP-AES.	10	n.d.
三氧化二砷 / Diarsenic trioxide*** (CAS No.: 001327-53-3)	mg/kg	參考US EPA 3052:1996方法, 用感應耦合電漿原子發射光譜儀檢測. / With reference to US EPA 3052:1996. Analyzed by ICP-AES.	10	n.d.
三乙基砷酸鹽 / Triethyl arsenate*** (CAS No.: 015606-95-8)	mg/kg	參考US EPA 3052:1996方法, 用感應耦合電漿原子發射光譜儀檢測. / With reference to US EPA 3052:1996. Analyzed by ICP-AES.	10	n.d.
砷酸氫鉛 / Lead hydrogen arsenate*** (CAS No.: 007784-40-9)	mg/kg	參考US EPA 3052:1996方法, 用感應耦合電漿原子發射光譜儀檢測. / With reference to US EPA 3052:1996. Analyzed by ICP-AES.	10	n.d.
重鉻酸鈉 / Sodium dichromate*** (CAS No.: 010588-01-9(*))	mg/kg	參考US EPA 3060A:1996方法, 用UV-VIS做分析. / With reference to US EPA 3060A:1996. Analyzed by UV-Vis.	2	n.d.

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除歐洲化學總署(ECHA)於2008年10月28日所公告的SVHC範圍外, 客户要求以下額外的篩檢(Additional screening by client's request outside the scope of SVHC as published by ECHA on 2008 October 28):

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
環十二烷 / Cyclododecane (CAS No.: 000294-62-2)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀檢測. / With reference to US EPA 5021. Analyzed by GC/MS.	5	n.d.

備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d.= not detected = below Method detection Limit / 未檢出
3. MDL = Method Detection Limit (方法偵測極限值)
4. ***: 該物質是由"三丁基錫"或各別元素 (例如: 砷、鉛、鈷或六價鉻)之測試結果計算得知。其MDL是針對"三丁基錫"或元素(例如: 砷、鉛、鈷或六價鉻)之評估。 /
The substance was calculated by the test results of Tributyl Tin or element (Ex. Arsenic, Lead, Cobalt or Cr (VI) respectively).
The MDL was evaluated for Tributyl Tin or element (Ex. Arsenic, Lead, Cobalt or Cr(VI) respectively).
5. (*): 重鉻酸鈉二水合物(CAS No.: 007789-12-0)含量 = 重鉻酸鈉含量 × 1.1374
(conc. of Sodium dichromate dihydrate = conc. of sodium dichromate × 1.1374)

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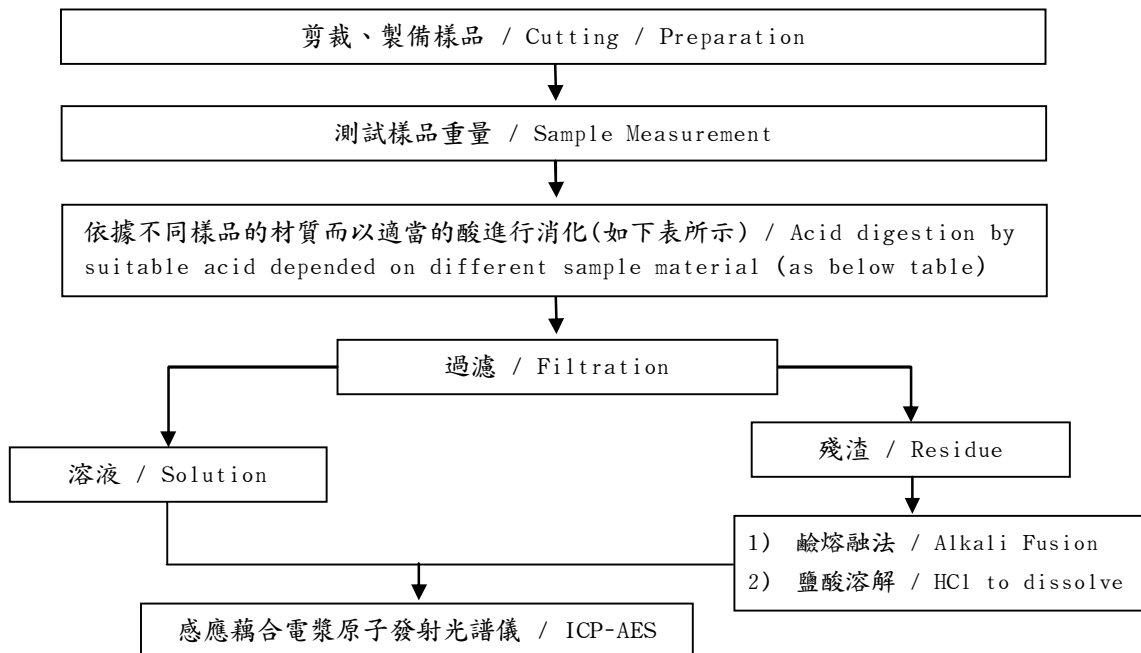
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- 1) 根據以下的流程圖之條件，樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: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

元素的消化流程圖 (Flow Chart of Digestion for elements 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 ₃ , HCl, HF, H ₂ O ₂
玻璃 / Glass	硝酸, 氫氟酸 / HNO ₃ /HF
金, 鉑, 鈀, 陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO ₃
塑膠 / Plastic	硫酸, 雙氧水, 硝酸, 鹽酸 / H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

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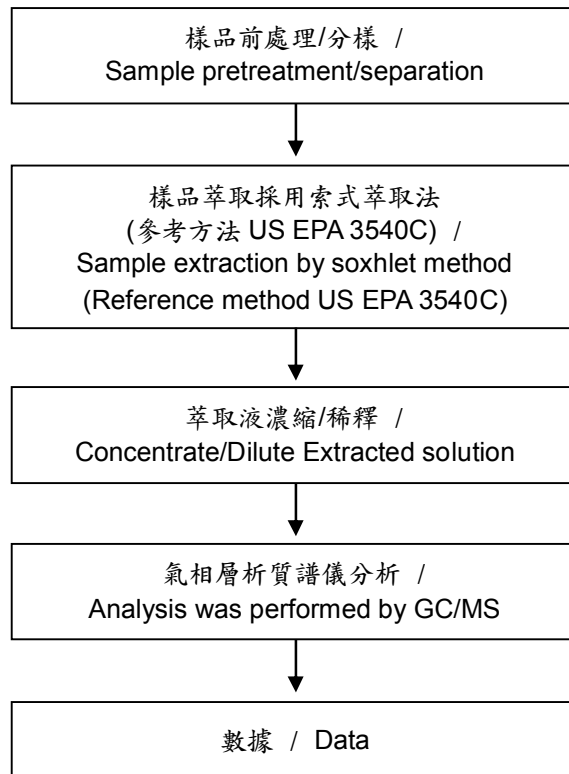
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可塑劑分析流程圖 / Analytical flow chart of phthalate content

- 1) 測試人員：徐毓明 / Name of the person who made measurement: Andy Shu
- 2) 測試負責人：陳新智 / Name of the person in charge of measurement: Shinjyh Chen



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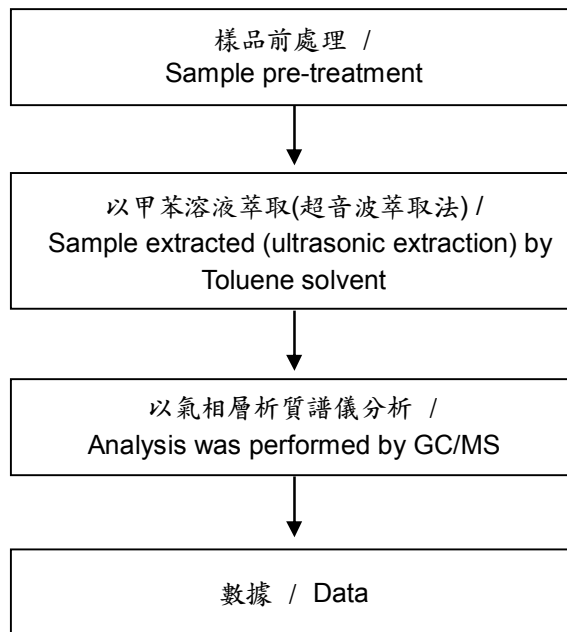
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多苯環芳香族化合物分析流程圖 /

PAHs (Polynuclear Aromatic Hydrocarbons) analytical flow chart

- 1) 測試人員：徐毓明 / Name of the person who made measurement: Andy Shu
- 2) 測試負責人：陳新智 / Name of the person in charge of measurement: Shinjyh Chen



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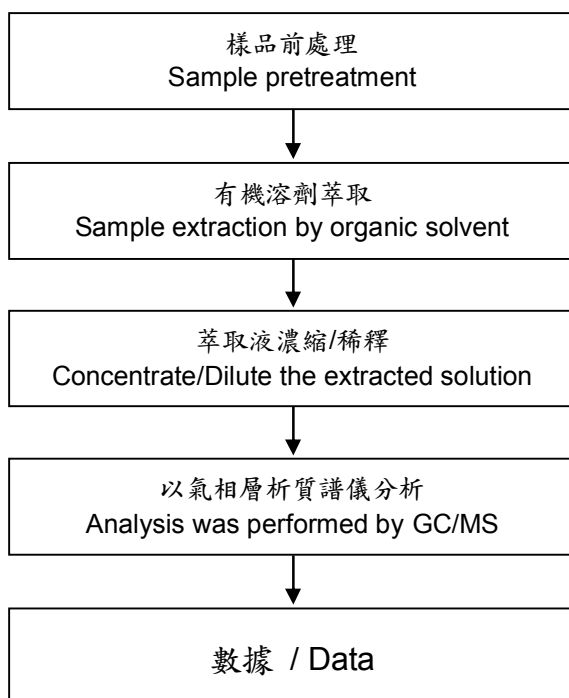
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含氯阻燃劑分析流程 / Chlorinated Flame retardant analytical flow chart

- 1) 測試人員：劉桓易 / Name of the person who made measurement: Max Liu
 - 2) 測試負責人：陳新智 / Name of the person in charge of measurement: Shinjyh Chen
- 參考方法(Reference method): US EPA 8270D, US EPA 3540
 - 測試項目(Test Items): PCBs, PCNs, PCTs, Mirex, CP, MCCP / 多氯聯苯, 多氯奈, 多氯三聯苯, 滅蟻靈, 氯化石蠟, 中鏈氯化石蠟



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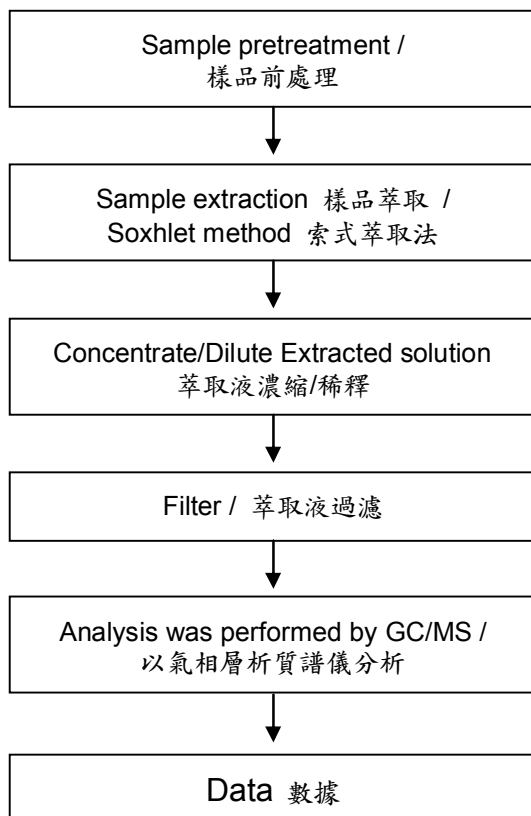
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六溴環十二烷分析流程圖 / HBCDD Analytical FLOW CHART

- 1) 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 2) 測試負責人：陳新智 / Name of the person in charge of measurement: Shinjyh Chen



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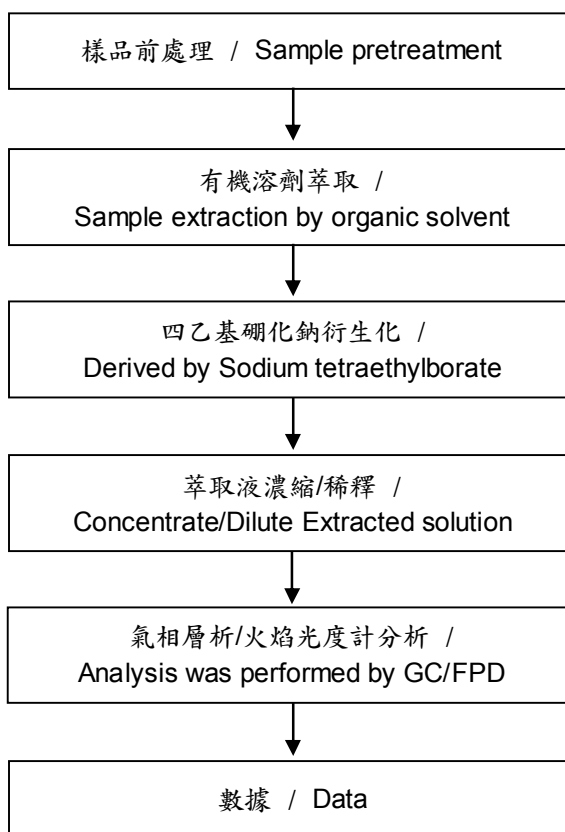
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有機錫分析流程圖 / Analytical flow chart of Organic-Tin content

- 1) 測試人員：涂雅苓 / Name of the person who made measurement: Vita Tu
- 2) 測試負責人：陳新智 / Name of the person in charge of measurement: Shinjyh Chen



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測試報告 Test Report

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** 報告結尾(End of Report) **

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