

測試報告

Test Report

號碼(No.) : CE/2018/80602

日期(Date) : 2018/08/10

頁數(Page): 1 of 9

凱士士企業股份有限公司

KAI SUH SUH ENTERPRISE CO., LTD.

台北市延平北路一段38號

38, YEN PING N. RD., SEC. 1, 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/on behalf of the applicant as):

樣品名稱(Sample Description) : NYLON CABLE TIE (NATURAL) / 尼龍繫線帶(本色)
同材質/產品名稱/型號(Sample Material/Sample Description/Style/Item No.) : 請參考第5頁 (PLEASE REFER TO PAGE 5)
樣品材質(Sample Material) : NYLON66, 94V-2 (NATURAL)
收件日期(Sample Receiving Date) : 2018/08/03
測試期間(Testing Period) : 2018/08/03 TO 2018/08/10

測試需求(Test Requested) :

- (1) 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) 其他測試項目請見下一頁 . (Please refer to next pages for the other item(s).)

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

結論(Conclusion) : (1) 根據客戶所提供的樣品, 其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP 的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863之限值要求. (Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)


Troy Chang, Manager - Tech
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



測試報告

Test Report

號碼(No.) : CE/2018/80602

日期(Date) : 2018/08/10

頁數(Page): 2 of 9

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測試結果(Test Results)

測試部位(PART NAME)No. 1 : 半透明塑膠 (TRANSLUCENT PLASTIC)

| 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) | 限值 (Limit) |
|----------------------------------|--------------|--|----------------------|----------------|---------------|
| | | | | No. 1 | |
| 鎘 / Cadmium (Cd) | mg/kg | 參考IEC 62321-5 (2013), 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321-5 (2013) and performed by ICP-AES. | 2 | n. d. | 100 |
| 鉛 / Lead (Pb) | mg/kg | | 2 | n. d. | 1000 |
| 汞 / Mercury (Hg) | mg/kg | 參考IEC 62321-4 (2013), 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321-4 (2013) and performed by ICP-AES. | 2 | n. d. | 1000 |
| 六價鉻 / Hexavalent Chromium Cr(VI) | mg/kg | 參考IEC 62321-7-2 (2017), 以UV-VIS 檢測. / With reference to IEC 62321-7-2 (2017) and performed by UV-VIS. | 8 | n. d. | 1000 |
| 多溴聯苯總和 / Sum of PBBs | mg/kg | 參考IEC 62321-6 (2015), 以氣相層析儀/質譜儀檢測. / With reference to IEC 62321-6 (2015) and performed by GC/MS. | - | n. d. | 1000 |
| 一溴聯苯 / Monobromobiphenyl | mg/kg | | 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 | mg/kg | 5 | n. d. | - | |

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測試報告

Test Report

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日期(Date) : 2018/08/10

頁數(Page): 3 of 9

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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) | 限值 (Limit) |
|---|--------------|--|----------------------|----------------|---------------|
| | | | | No. 1 | |
| 多溴聯苯醚總和 / Sum of PBDEs | mg/kg | 參考IEC 62321-6 (2015), 以氣相層析儀/質譜儀檢測. / With reference to IEC 62321-6 (2015) and performed by GC/MS. | - | n. d. | 1000 |
| 一溴聯苯醚 / Monobromodiphenyl ether | 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. | - | |
| 鄰苯二甲酸二(2-乙基己基)酯 / DEHP (Di-(2-ethylhexyl) phthalate) (CAS No. : 117-81-7) | mg/kg | 參考IEC 62321-8 (2017), 以氣相層析儀/質譜儀檢測. / With reference to IEC 62321-8 (2017). Analysis was performed by GC/MS. | 50 | n. d. | 1000 |
| 鄰苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No. : 85-68-7) | mg/kg | | 50 | n. d. | 1000 |
| 鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No. : 84-74-2) | mg/kg | | 50 | n. d. | 1000 |
| 鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No. : 84-69-5) | mg/kg | | 50 | n. d. | 1000 |
| 鄰苯二甲酸二異癸酯 / DIDP (Di-isodecyl phthalate) (CAS No. : 26761-40-0; 68515-49-1) | mg/kg | | 50 | n. d. | - |
| 鄰苯二甲酸二異壬酯 / DINP (Di-isononyl phthalate) (CAS No. : 28553-12-0; 68515-48-0) | mg/kg | | 50 | n. d. | - |
| 鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No. : 117-84-0) | mg/kg | | 50 | n. d. | - |
| 鄰苯二甲酸二正己酯 / DNHP (Di-n-hexyl phthalate) (CAS No. : 84-75-3) | mg/kg | 50 | n. d. | - | |

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測試報告

Test Report

號碼(No.) : CE/2018/80602

日期(Date) : 2018/08/10

頁數(Page): 4 of 9

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備註(Note) :

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)

測試報告

Test Report

號碼(No.) : CE/2018/80602

日期(Date) : 2018/08/10

頁數(Page): 5 of 9

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同材質產品型號(Item No. from the same material) : AWS, PC, AP, ATC, MMR, TV, BCS, UC, KUC, TS, PTS, DCC, RC, CTF, SN, DN, CAP, CATV, KFC, KFS, MAT, BE, BT, CTT, CE, CDW, DR, DCV, RDCV, KTV, DL, DK, DR, BGQ, PAQ, HL, ES, CV, FC, FCT, FCP, FCW, BG, SR, SR, FD, HBW, HTN, HTP, HTS, HP, HPA, RHR, FCV, RRCV, TV, STV, LD3, LE, LK, LX, LQT, LQ, LDT, LY, LG3, LG, LH, LHN, PLU, LHK, PLK, PLM, PLX, PLW, PLD1, PLD2, PLD4, PLT, PLR, PCL, KWS, WS, MT, MS, MCV, KW, TCV, TCVS, TT, MFC, KG-N, PCC, TRH, PG, AG, AGJ, EG, NPT, PG, AG, EG, AGJ, EGH, AGH, NPTH, AGJH, CV, NV, CVT, LT, CVS, ES, PH, CS, MCS, LCA, SP, SPA, SPB, SPC, SPD, DS, EB, MS, BMS, HMS, TMS, MMS, MMR, KCS, SPS, PB, PST, HGS, GS, SWS, LCS, LCL, PCU, PF, PN, PL, PHV, PCV, PCVS, PFVS, PGV, PSV, PWVS, PWV, PRVS, PDV, PUV, RPFVS, PS, PHC, PFS, M, M, AG, EG, AGJ, NPT, HV, HVC, RCV, HRCV, RS, NPTA, SR, RSP, RW, PMA, HC, CS, CSA, RLS, SCS, SR, MSP, PSP, SCT, 4J, 6J, 8J, 10J, 11J, 12J, HC, VC, FC, SWC, SNB, SB, RSB, OSB, SR, SN, SR, KS, SPR, SGN, ST, SR, TH, TH, THR, TR, TW, TRW, TT, TTU, CH, WR, FC, WH, WCT, JWS, JWB, DWS, OWS, PWS, BWS, TWS, RH, RWS, LWS, RCS, SM, EGL, AGL, NPTL, AGJL, EGH, AGH, NPTH, AGJH, SM, PG%M, LCH, SHW, RC, BPA, VF, DT, CHV, VA, BA, BV, STT, A, DP, AH, T, DV, DE, DP, HB, SWD

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測試報告 Test Report

號碼(No.) : CE/2018/80602

日期(Date) : 2018/08/10

頁數(Page): 6 of 9

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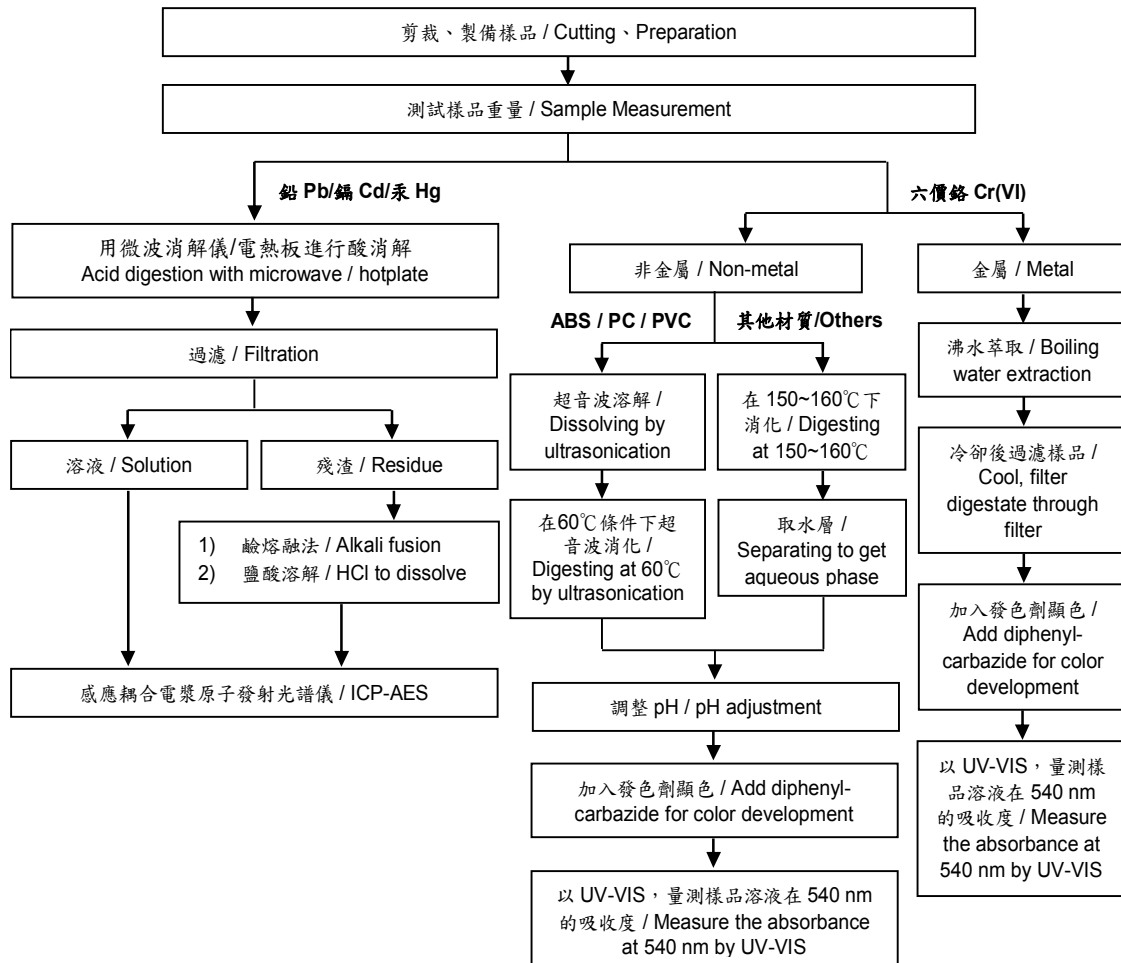


重金屬流程圖 / Analytical flow chart of Heavy Metal

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. (Cr⁶⁺ test method excluded)

- 測試人員：陳思臻 / Technician : Rita Chen
- 測試負責人：張啟興 / Supervisor: Troy Chang



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測試報告 Test Report

號碼(No.) : CE/2018/80602

日期(Date) : 2018/08/10

頁數(Page): 7 of 9



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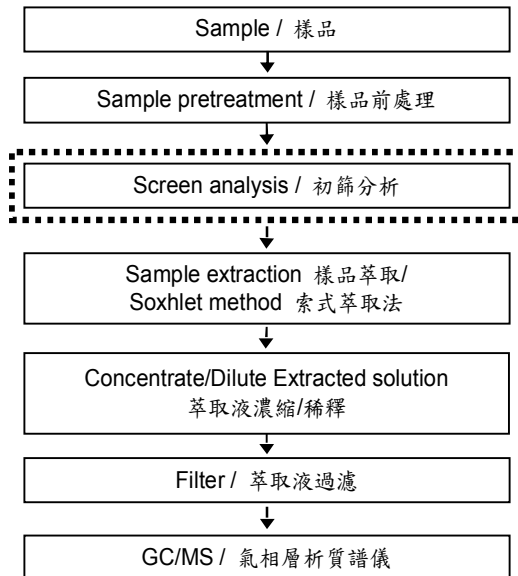
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多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBB/PBDE

- 測試人員：涂雅苓 / Technician: Yaling Tu
- 測試負責人：張啟興 / Supervisor: Troy Chang

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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頁數(Page): 8 of 9

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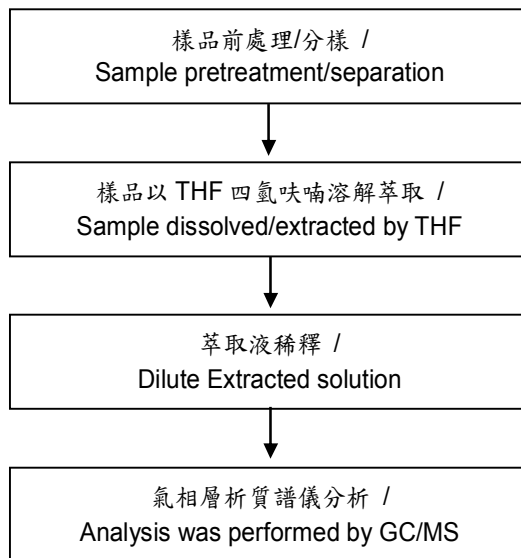
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可塑劑分析流程圖 / Analytical flow chart - Phthalate

- 測試人員：涂雅苓 / Technician: Yaling Tu
- 測試負責人：張啟興 / Supervisor : Troy Chang

【測試方法/Test method: IEC 62321-8】



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頁數(Page): 9 of 9

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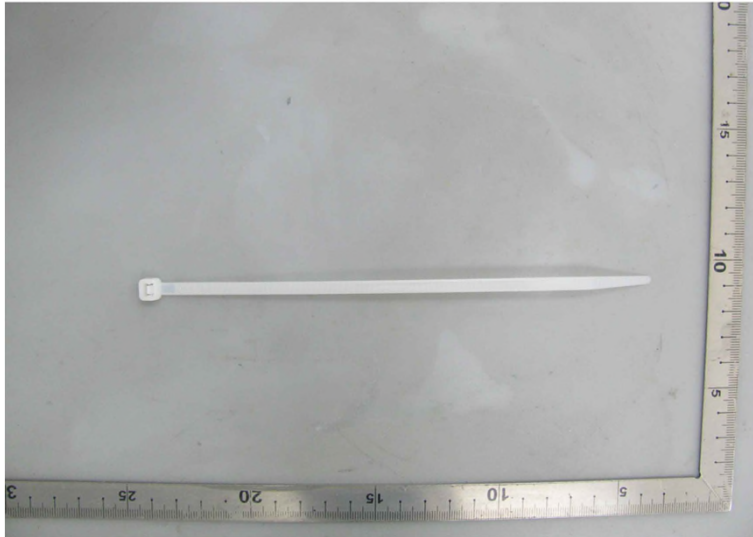
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* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。*

(The tested sample / part is marked by an arrow if it's shown on the photo.)

CE/2018/80602



** 報告結尾 (End of Report) **