

試驗報告

號碼(No.) : KA/2017/32083 日期(Date) : 2017/04/10

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Test Report

信宇科技股份有限公司

SIN YU TECHNOLOGY INC.

744臺南市新市區潭頂里115號

NO.115, TANDING, XINSHI DIST., TAINAN CITY, 744 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) : 聚氯乙烯絕緣花線 (PVC INSULATED FLEXIBLE CORDS)

樣品型號(Style/Item No.) : CNS3199 平行花線(VFF, 0.5MM2~2.0MM2),
CNS3199 耐熱平行花線(HVFF, 0.5MM2~2.0MM2)

收件日期(Sample Receiving Date) : 2017/03/30

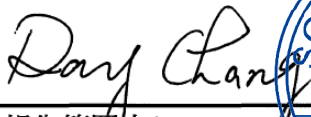
測試期間(Testing Period) : 2017/03/30 TO 2017/04/10

送樣廠商(Sample Submitted By) : 信宇科技股份有限公司 (SIN YU TECHNOLOGY INC.)

測試需求(Test Requested) :

依據客戶指定, 參考RoHS2011/65/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.)

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



報告簽署人/Ray Chang, Ph.D./Manager-Tech
Signed for and on behalf of
SGS Taiwan Limited

試驗報告

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測試結果(Test Results)

測試部位(PART NAME)No.1 : 白色/紅色 外被 (WHITE/RED JACKET)

測試部位(PART NAME)No.2 : 銅色 銅線 (COPPER RED CONDUCTOR)

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	No.2
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321-5: 2013方法, 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.	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321-5: 2013方法, 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.	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321-4: 2013方法, 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.	n.d.
六價鉻 / Hexavalent Chromium Cr(VI)	mg/kg	參考IEC 62321: 2008方法, 以UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	---
六價鉻 / Hexavalent Chromium Cr(VI)(#2)	µg/cm ²	參考IEC 62321-7-1:2015, 以UV-VIS檢測. / With reference to IEC 62321-7-1:2015 and performed by UV-VIS.	0.10	---	n.d.

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信宇科技股份有限公司

SIN YU TECHNOLOGY INC.

744臺南市新市區潭頂里115號

NO.115,TANDING, XINSHI DIST.,TAINAN CITY, 744 TAIWAN,R.O.C.

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	No.2
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321-6: 2015方法, 以氣相層析/ 質譜儀檢測. / With reference to IEC 62321-6: 2015 and performed by GC/MS.	-	n.d.	n.d.
一溴聯苯 / Monobromobiphenyl	mg/kg		5	n.d.	n.d.
二溴聯苯 / Dibromobiphenyl	mg/kg		5	n.d.	n.d.
三溴聯苯 / Tribromobiphenyl	mg/kg		5	n.d.	n.d.
四溴聯苯 / Tetrabromobiphenyl	mg/kg		5	n.d.	n.d.
五溴聯苯 / Pentabromobiphenyl	mg/kg		5	n.d.	n.d.
六溴聯苯 / Hexabromobiphenyl	mg/kg		5	n.d.	n.d.
七溴聯苯 / Heptabromobiphenyl	mg/kg		5	n.d.	n.d.
八溴聯苯 / Octabromobiphenyl	mg/kg		5	n.d.	n.d.
九溴聯苯 / Nonabromobiphenyl	mg/kg		5	n.d.	n.d.
十溴聯苯 / Decabromobiphenyl	mg/kg		5	n.d.	n.d.
多溴聯苯醚總和 / Sum of PBDEs	mg/kg	參考IEC 62321-6: 2015方法, 以氣相層析/ 質譜儀檢測. / With reference to IEC 62321-6: 2015 and performed by GC/MS.	-	n.d.	n.d.
一溴聯苯醚 / Monobromodiphenyl ether	mg/kg		5	n.d.	n.d.
二溴聯苯醚 / Dibromodiphenyl ether	mg/kg		5	n.d.	n.d.
三溴聯苯醚 / Tribromodiphenyl ether	mg/kg		5	n.d.	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether	mg/kg		5	n.d.	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg		5	n.d.	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether	mg/kg		5	n.d.	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether	mg/kg		5	n.d.	n.d.
八溴聯苯醚 / Octabromodiphenyl ether	mg/kg		5	n.d.	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether	mg/kg		5	n.d.	n.d.
十溴聯苯醚 / Decabromodiphenyl ether	mg/kg		5	n.d.	n.d.

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744臺南市新市區潭頂里115號

NO.115,TANDING, XINSHI DIST.,TAINAN CITY, 744 TAIWAN,R.O.C.

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	No.2
鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	mg/kg	參考IEC 62321-8 (111/321/CD)，以氣相層析儀/質譜儀檢測之。 / With reference to IEC 62321-8 (111/321/CD). Analysis was performed by GC/MS.	50	n.d.	n.d.
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg		50	n.d.	n.d.
鄰苯二甲酸丁苄甲酯 / BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg		50	n.d.	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		50	73.6	n.d.

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)
5. "---" = Not Conducted (未測項目)
6. (#2) =
 - a. 當六價鉻結果大於0.13 $\mu\text{g}/\text{cm}^2$ ，表示樣品表層含有六價鉻。 / The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 $\mu\text{g}/\text{cm}^2$. The sample coating is considered to contain Cr(VI).
 - b. 當六價鉻結果為n.d. (濃度小於0.10 $\mu\text{g}/\text{cm}^2$)，表示表層不含六價鉻。 / The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 $\mu\text{g}/\text{cm}^2$). The coating is considered a non-Cr(VI) based coating
 - c. 當六價鉻結果介於 0.10 及 0.13 $\mu\text{g}/\text{cm}^2$ 時，無法確定塗層是否含有六價鉻。 / The result between 0.10 $\mu\text{g}/\text{cm}^2$ and 0.13 $\mu\text{g}/\text{cm}^2$ is considered to be inconclusive - unavoidable coating variations may influence the determination.

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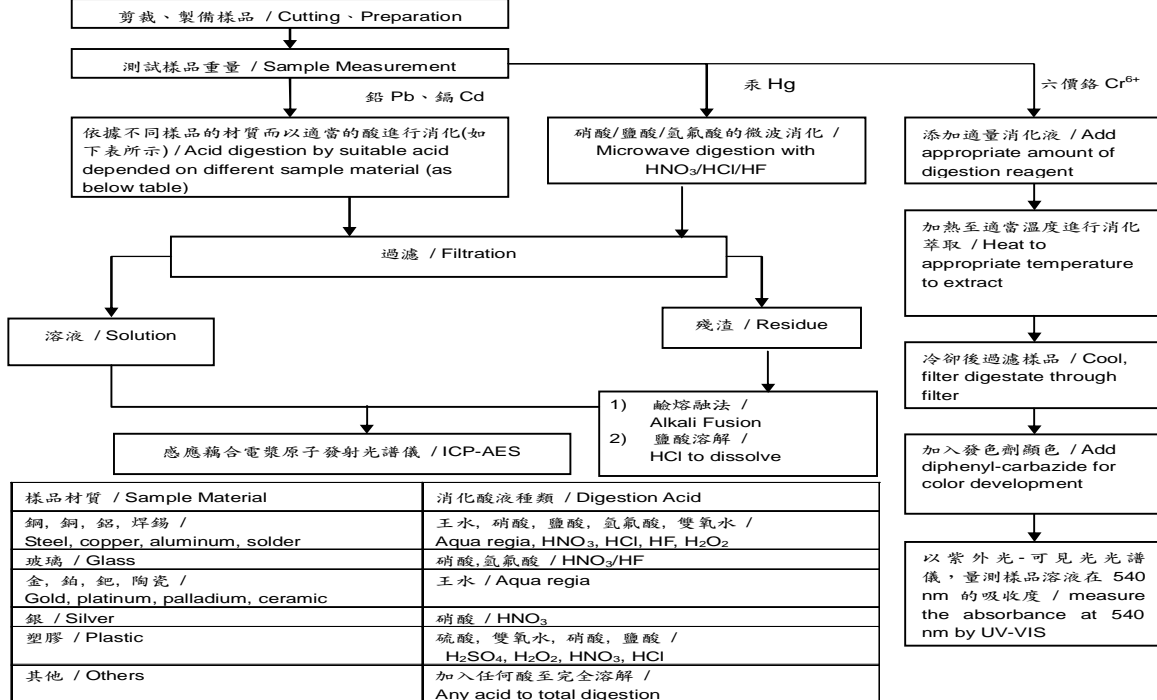
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NO.115,TANDING, XINSHI DIST.,TAINAN CITY, 744 TAIWAN,R.O.C.

- 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. (Cr⁶⁺ test method excluded)
- 2) 測試人員：劉俊宏 / Name of the person who made measurement: Jony Liu
- 3) 測試負責人：張伯睿 / Name of the person in charge of measurement: Ray Chang



Note :** (1) 針對非金屬材料加入鹼性消化液，加熱至 90~95℃ 萃取。 / For non-metallic material, add alkaline digestion reagent and heat to 90~95℃.
 (2) 針對金屬材料加入純水，加熱至沸騰萃取。 / For metallic material, add pure water and heat to boiling.

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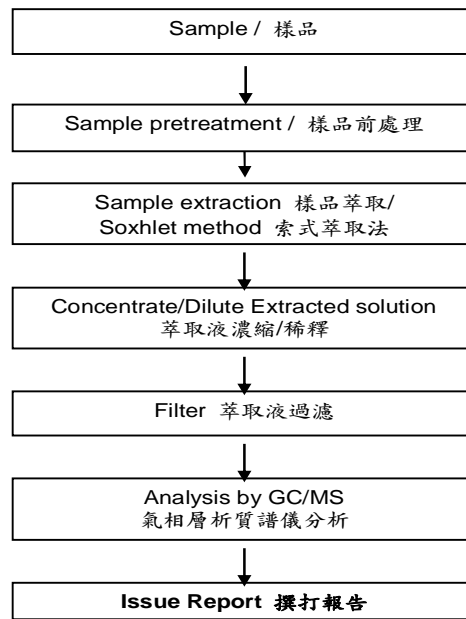
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NO.115,TANDING, XINSHI DIST.,TAINAN CITY, 744 TAIWAN,R.O.C.

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

- 1)測試人員：陳威錚 / Name of the person who made measurement: Dorothy Chen
 2)測試負責人：張伯睿 / Name of the person in charge of measurement: Ray Chang



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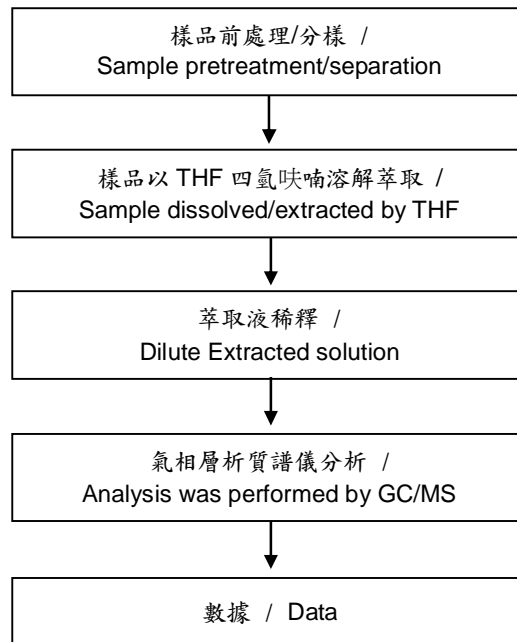
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可塑劑分析流程圖 / Analytical flow chart of phthalate content

- 測試人員：陳威錚 / Name of the person who made measurement: Dorothy Chen
- 測試負責人：張伯睿 / Name of the person in charge of measurement: Ray Chang



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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.)

KA/2017/32083



** 報告結尾 (End of Report) **