

試驗報告

Test Report

號碼(No.) : KA/2019/90325 日期(Date) : 2019/09/11

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天二科技股份有限公司

EVER OHMS TECHNOLOGY CO., LTD.

高雄市前鎮區高雄加工出口區南四路3號

NO. 3, SOUTH 4TH ROAD, K.E.P.Z. KAOHSIUNG CITY, 80681 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):

送樣廠商(Sample Submitted By) : 天二科技股份有限公司 (EVER OHMS TECHNOLOGY CO.,LTD.)
樣品名稱(Sample Description) : METAL ALLOY LOW RESISTANCE CHIP RESISTOR
樣品型號(Style/Item No.) : MA SERIES / MAL SERIES
收件日期(Sample Receiving Date) : 2019/09/05
測試期間(Testing Period) : 2019/09/05 to 2019/09/11

測試需求(Test Requested) :

- (1) 依據客戶指定，檢測鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚，DBP, BBP, DEHP, DIBP. (As specified by client, to test 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).)

測試方法(Test Method) : 請參閱下一頁 (Please refer to following pages).

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


報告簽署人/張伯睿/博士/技術經理
Ray Chang, Ph.D./Manager -Tech
Signed for and on behalf of
SGS Taiwan Limited
化學實驗室-高雄/Chemical Laboratory -Kaohsiung


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測試結果(Test Results)

測試部位(PART NAME)No.1 : 整體混測 (MIXED ALL PARTS)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	MDL	結果 (Result)
				No. 1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321-5: 2013方法, 以感應耦合電漿發射光譜儀檢測. / With reference to IEC 62321-5: 2013 and performed by ICP-OES.	2	n. d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321-5: 2013方法, 以感應耦合電漿發射光譜儀檢測. / With reference to IEC 62321-5: 2013 and performed by ICP-OES.	2	n. d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321-4:2013+AMD1:2017, 以感應耦合電漿發射光譜儀檢測. / With reference to IEC 62321-4:2013+AMD1:2017 and performed by ICP-OES.	2	n. d.
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.
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.
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.		

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	MDL	結果 (Result)
				No. 1
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.
一溴聯苯醚 / Monobromodiphenyl ether			5	n. d.
二溴聯苯醚 / Dibromodiphenyl ether			5	n. d.
三溴聯苯醚 / Tribromodiphenyl ether			5	n. d.
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n. d.
五溴聯苯醚 / Pentabromodiphenyl ether			5	n. d.
六溴聯苯醚 / Hexabromodiphenyl ether			5	n. d.
七溴聯苯醚 / Heptabromodiphenyl ether			5	n. d.
八溴聯苯醚 / Octabromodiphenyl ether			5	n. d.
九溴聯苯醚 / Nonabromodiphenyl ether			5	n. d.
十溴聯苯醚 / Decabromodiphenyl ether	5	n. d.		
鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No. : 84-69-5)	mg/kg	參考IEC 62321-8:2017, 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.
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No. : 84-74-2)	mg/kg		50	n. d.
鄰苯二甲酸丁苄酯 / BBP (Butyl Benzyl phthalate) (CAS No. : 85-68-7)	mg/kg		50	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	n. d.
鹵素 / Halogen				
鹵素 (氟) / Halogen-Fluorine (F) (CAS No. : 14762-94-8)	mg/kg	參考BS EN 14582:2016, 以離子層析儀檢 測. / With reference to BS EN 14582:2016. Analysis was performed by IC.	50	n. d.
鹵素 (氯) / Halogen-Chlorine (Cl) (CAS No. : 22537-15-1)	mg/kg		50	n. d.
鹵素 (溴) / Halogen-Bromine (Br) (CAS No. : 10097-32-2)	mg/kg		50	n. d.
鹵素 (碘) / Halogen-Iodine (I) (CAS No. : 14362-44-8)	mg/kg		50	n. d.

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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)
5. 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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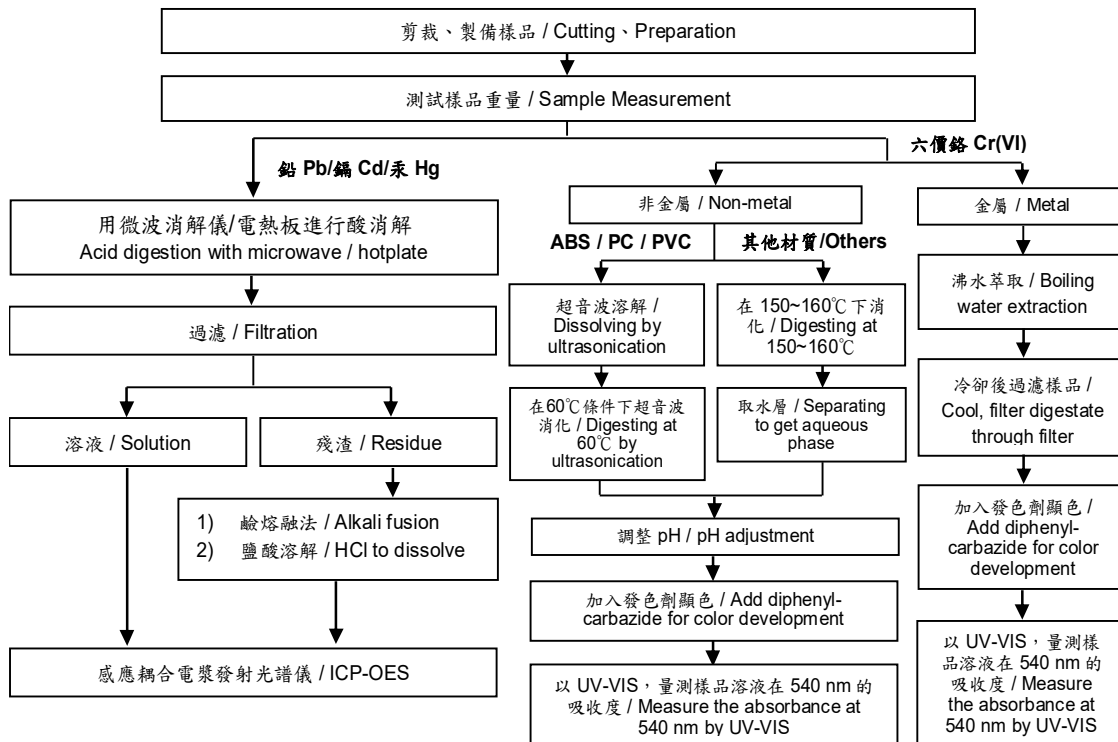
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重金屬流程圖 / Analytical flow chart of Heavy Metal

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：劉俊宏 / Technician : Jony Liu
- 測試負責人：張伯睿 / Supervisor: Ray Chang



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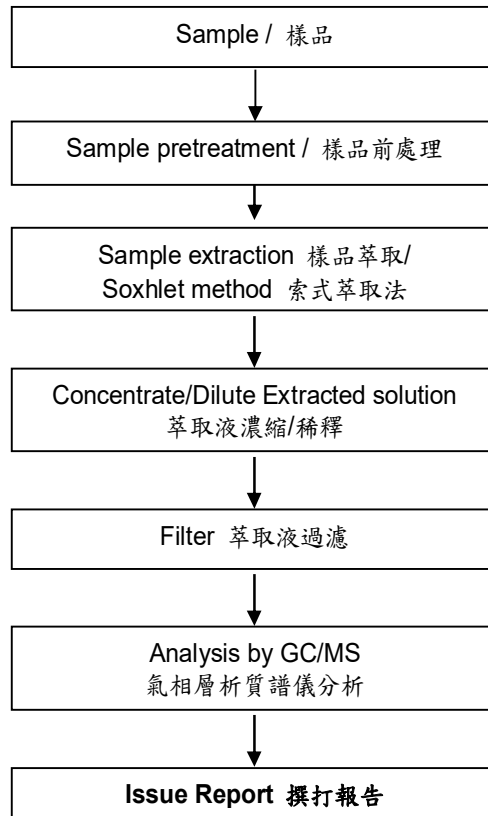
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多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART

- 測試人員：陳威錚 / Technician : Dorothy Chen
- 測試負責人：張伯睿 / Supervisor: Ray Chang



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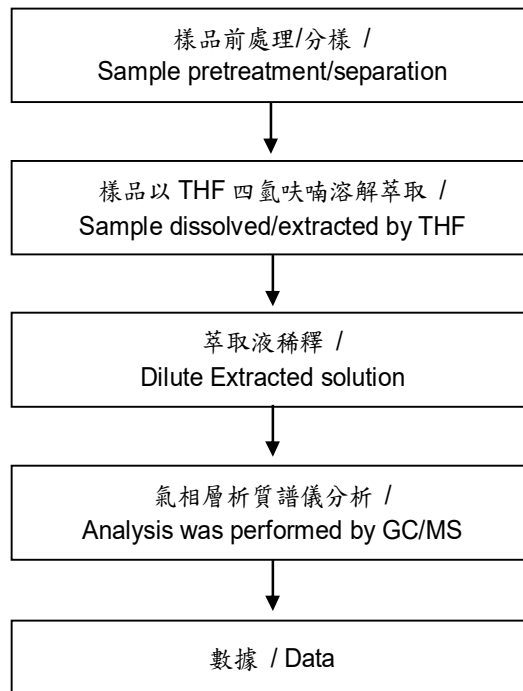
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可塑劑分析流程圖 / Analytical flow chart of phthalate content

- 測試人員：陳威錚 / Technician : Dorothy Chen
- 測試負責人：張伯睿 / Supervisor: Ray Chang

【測試方法/Test method: IEC 62321-8】



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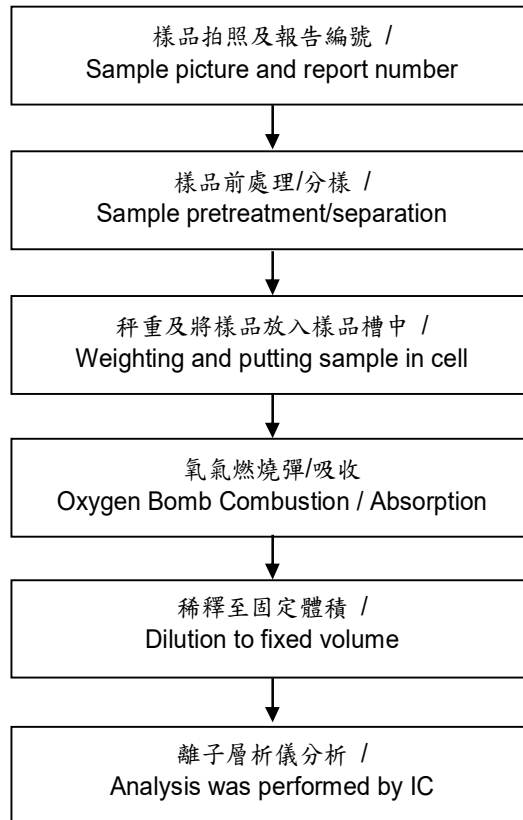
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鹵素分析流程圖 / Analytical flow chart of halogen content

- 測試人員：洪秀真 / Technician : Jean Hung
- 測試負責人：張伯睿 / Supervisor: Ray Chang



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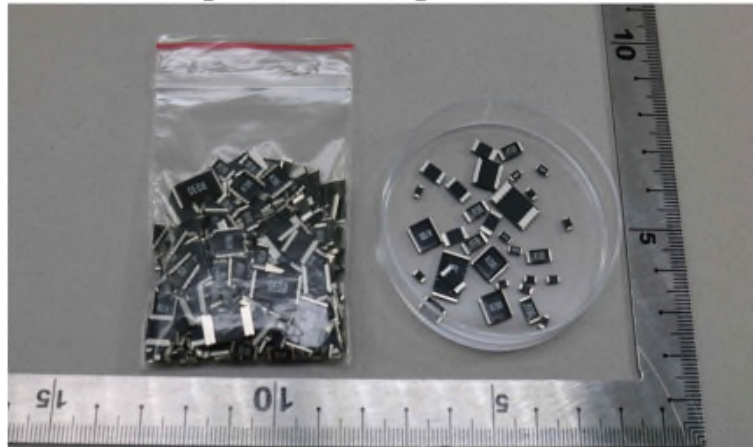
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* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。 *
(The tested sample / part is marked by an arrow if it's shown on the photo.)

KA/2019/90325



** 報告結尾 (End of Report) **