

測試報告 Test Report

號碼(No.): KA/2010/10174

日期(Date): 2010/01/22

頁數(Page): 1 of 7

國巨股份有限公司楠梓分公司(國巨/飛元/華亞)



YAGEO CORPORATION NANTZE BRANCH (YAGEO/PHYCOMP/COMPOSTAR)

高雄市楠梓加工出口區西三街16號

16, WEST 3RD STREET N. E. P. Z. KAOHSIUNG, TAIWAN, R. O. C.

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) : MULTI-LAYER CERAMIC CAPACITOR
樣品型號(Style/Item No.) : MLCC NPO 1210 SERIES
: NME
收件日期(Sample Receiving Date) : 2010/01/06
測試期間(Testing Period) : 2010/01/06 TO 2010/01/22

=====
測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修定指令要求. (In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).

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

Ray Chang / Asst. Manager
Signed for and on behalf of
SGS Taiwan Limited

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測試報告 Test Report

號碼(No.): KA/2010/10174

日期(Date): 2010/01/22

頁數(Page): 2 of 7

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測試方法(Test Method)

: 參考IEC 62321: 2008方法檢測。(With reference to IEC 62321: 2008. Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products).

- (1) 用感應耦合電漿原子發射光譜儀檢測鎘含量。 / Determination of Cadmium by ICP-AES.
- (2) 用感應耦合電漿原子發射光譜儀檢測鉛含量。 / Determination of Lead by ICP-AES.
- (3) 用感應耦合電漿原子發射光譜儀檢測汞含量。 / Determination of Mercury by ICP-AES.
- (4) 用UV-VIS檢測六價鉻含量。 / Determination of Hexavalent Chromium by UV/Vis Spectrometry.
- (5) 以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / Determination of PBB and PBDE by GC/MS.

測試結果(Test Results)

: 請見下一頁 (Please refer to next pages).

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測試報告 Test Report

號碼(No.): KA/2010/10174

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頁數(Page): 3 of 7

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測試結果(Test Results) 單位(Unit): mg/kg

| 測試項目 (Test Items) | 測試方法 Method (Refer to) | 結果 (Result) | 方法偵測 極限值 (MDL) |
|---|------------------------------|-------------|----------------------|
| | | No.1 | |
| 鎘 / Cadmium (Cd) | (1) | n.d. | 2 |
| 鉛 / Lead (Pb) | (2) | n.d. | 2 |
| 汞 / Mercury (Hg) | (3) | n.d. | 2 |
| 六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction | (4) | n.d. | 2 |
| 多溴聯苯總和 / Sum of PBBs | (5) | n.d. | - |
| 一溴聯苯 / Monobromobiphenyl | | n.d. | 5 |
| 二溴聯苯 / Dibromobiphenyl | | n.d. | 5 |
| 三溴聯苯 / Tribromobiphenyl | | n.d. | 5 |
| 四溴聯苯 / Tetrabromobiphenyl | | n.d. | 5 |
| 五溴聯苯 / Pentabromobiphenyl | | n.d. | 5 |
| 六溴聯苯 / Hexabromobiphenyl | | n.d. | 5 |
| 七溴聯苯 / Heptabromobiphenyl | | n.d. | 5 |
| 八溴聯苯 / Octabromobiphenyl | | n.d. | 5 |
| 九溴聯苯 / Nonabromobiphenyl | | n.d. | 5 |
| 十溴聯苯 / Decabromobiphenyl | | n.d. | 5 |
| 多溴聯苯醚總和 / Sum of PBDEs | | n.d. | - |
| 一溴聯苯醚 / Monobromodiphenyl ether | | n.d. | 5 |
| 二溴聯苯醚 / Dibromodiphenyl ether | | n.d. | 5 |
| 三溴聯苯醚 / Tribromodiphenyl ether | | n.d. | 5 |
| 四溴聯苯醚 / Tetrabromodiphenyl ether | | n.d. | 5 |
| 五溴聯苯醚 / Pentabromodiphenyl ether | | n.d. | 5 |
| 六溴聯苯醚 / Hexabromodiphenyl ether | | n.d. | 5 |
| 七溴聯苯醚 / Heptabromodiphenyl ether | | n.d. | 5 |
| 八溴聯苯醚 / Octabromodiphenyl ether | | n.d. | 5 |
| 九溴聯苯醚 / Nonabromodiphenyl ether | n.d. | 5 | |
| 十溴聯苯醚 / Decabromodiphenyl ether | n.d. | 5 | |

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測試報告 Test Report

號碼(No.): KA/2010/10174

日期(Date): 2010/01/22

頁數(Page): 4 of 7

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測試部位描述 (TEST PART DESCRIPTION):

NO.1 : 銀色/灰色 MULTI-LAYER CERAMIC CAPACITOR (SILVER/GRAY MULTI-LAYER CERAMIC CAPACITOR)

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)

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測試報告 Test Report

號碼(No.): KA/2010/10174

日期(Date): 2010/01/22

頁數(Page): 5 of 7

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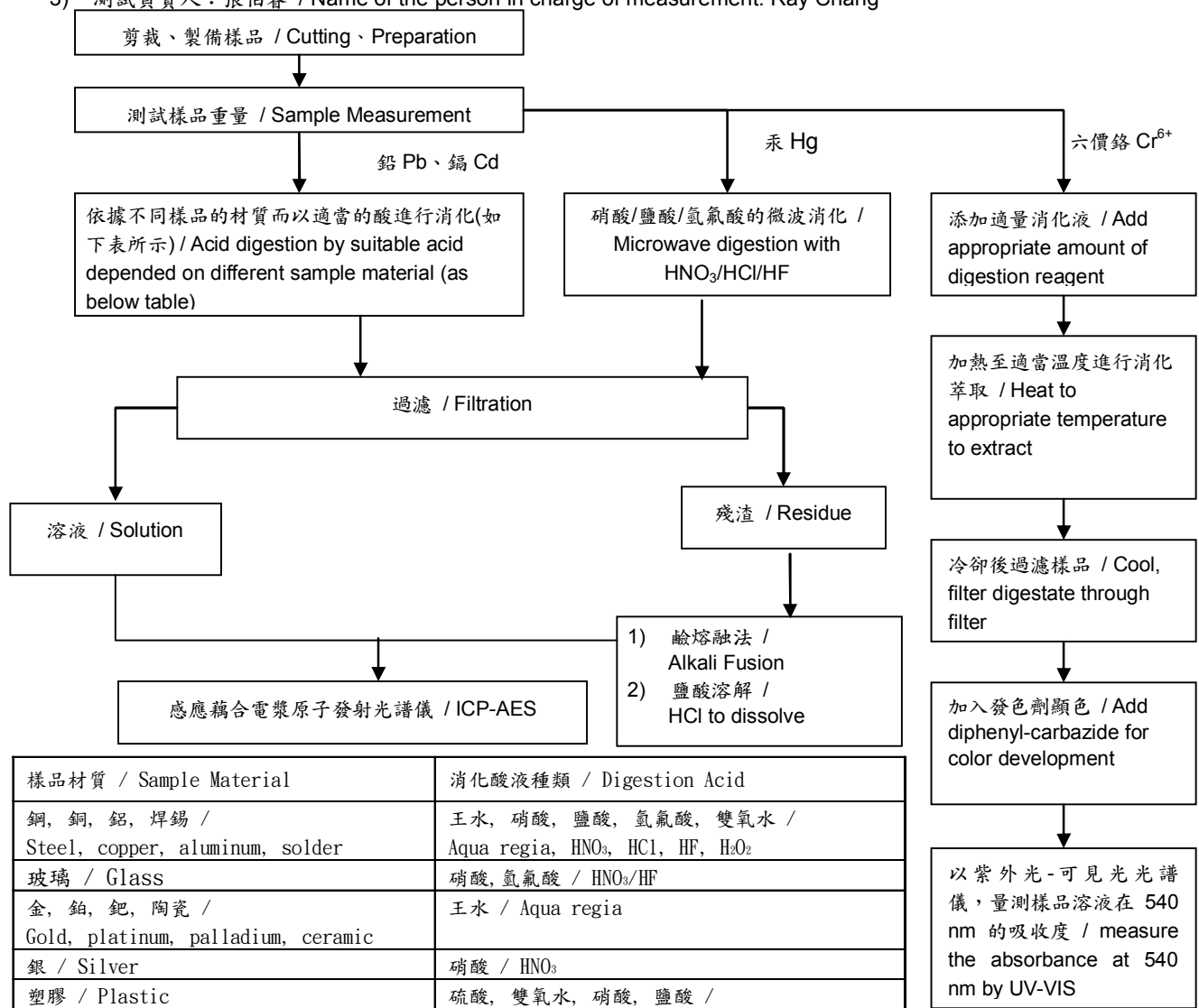


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- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) 測試人員：李宏明 / Name of the person who made measurement: Hungming Li
- 3) 測試負責人：張伯睿 / Name of the person in charge of measurement: Ray Chang



| 樣品材質 / Sample Material | 消化酸液種類 / Digestion Acid |
|--|---|
| 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, 鈮, 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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測試報告 Test Report

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頁數(Page): 6 of 7

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

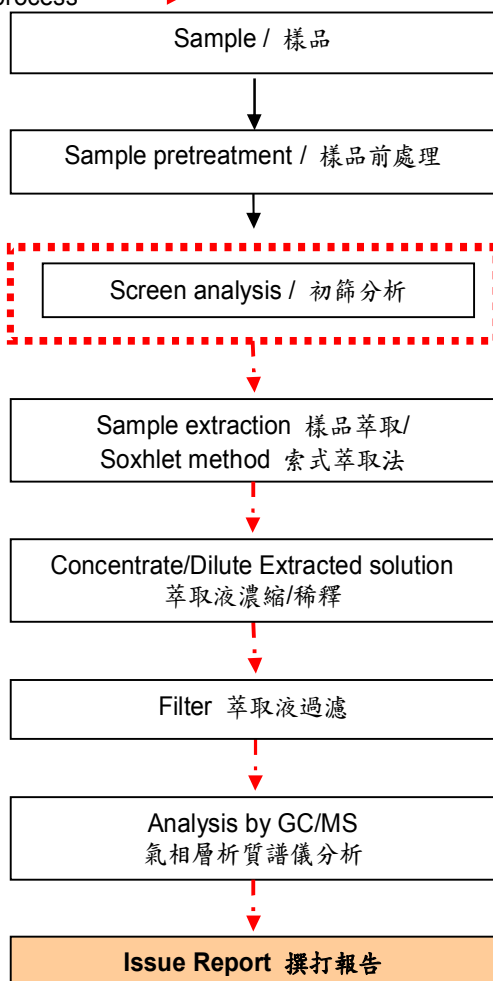
1)測試人員: 曹嘉琪 / Name of the person who made measurement: Anson Tsao

2)測試負責人: 張伯睿 / Name of the person in charge of measurement: Ray 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): 7 of 7

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** 報告結尾(End of Report) **

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