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奇美實業股份有限公司 CHI MEI CORPORATION 台南市仁德區三甲里59-1號 59-1, SAN CHIA, JEN TE, TAINAN CITY 71702, TAIWAN

### 以下測試樣品係由客户送樣,且由客户聲稱並經客户確認如下

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

樣品名稱(Sample Description) : OPTICAL DIFFUSER PLATE

樣品型號(Style/Item No.) : DS-553A 收件日期(Sample Receiving Date) : 2014/06/27

測試期間(Testing Period) : 2014/06/27 TO 2014/07/03

送樣廠商(Sample Submitted By) : 奇美實業股份有限公司 (CHI MEI CORPORATION)

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** 

Chemical Laboratory-Kaohsiun

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### 測試結果(Test Results)

: 白色 OPTICAL DIFFUSER PLATE (WHITE OPTICAL DIFFUSER PLATE) 測試部位(PART NAME) NO.1

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
鎬 / 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.
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.
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.
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	参考IEC 62321: 2008方法,用UV-VIS檢測./ With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321: 2008方法,以氣相層析儀/質 譜儀檢測./ With reference to IEC 62321: 2008 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)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
多溴聯苯醚總和 / Sum of PBDEs			-	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		参考IEC 62321: 2008方法, 以氣相層析儀/質	5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg	譜儀檢測. / With reference to IEC 62321:	5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether		2008 and performed by GC/MS.	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.
鹵素 / Halogen				
鹵素(氟)/ Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	參考BS EN 14582:2007,以離子層析儀分析./ With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素 (氣) / Halogen-Chlorine (C1) (CAS No.: 022537-15-1)	mg/kg	参考BS EN 14582:2007, 以離子層析儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素 (溴) / Halogen-Bromine (Br) (CAS No.: 010097-32-2)	mg/kg	参考BS EN 14582:2007, 以離子層析儀分析./ With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 014362-44-8)	mg/kg	参考BS EN 14582:2007, 以離子層析儀分析./ With reference to BS EN 14582:2007. Analysis was performed by IC.	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)

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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. ( Cr<sup>6+</sup> test method excluded )
- 2) 測試人員:劉俊宏 / Name of the person who made measurement: Jony Liu

測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang 剪裁、製備樣品 / Cutting、Preparation 測試樣品重量 / Sample Measurement 六價鉻 Cr<sup>6+</sup> 汞 Hg 鉛 Pb、鍋 Cd 依據不同樣品的材質而以適當的酸進行消化(如 硝酸/鹽酸/氫氟酸的微波消化 / 添加適量消化液 / Add 下表所示) / Acid digestion by suitable acid Microwave digestion with appropriate amount of HNO<sub>3</sub>/HCI/HF depended on different sample material (as digestion reagent below table) 加熱至適當溫度進行消化 萃取 / Heat to 過濾 / Filtration appropriate temperature to extract 殘渣 / Residue 溶液 / Solution 冷卻後過濾樣品 / Cool, filter digestate through filter 鹼熔融法 / Alkali Fusion 2) 鹽酸溶解 / 感應藕合電漿原子發射光譜儀 / ICP-AES 加入發色劑顯色 / Add HCl to dissolve diphenyl-carbazide for color development 樣品材質 / Sample Material 消化酸液種類 / Digestion Acid 鋼, 銅, 鋁, 焊錫 / 王水,硝酸,鹽酸,氫氟酸,雙氧水/ Steel, copper, aluminum, solder Aqua regia, HNO<sub>3</sub>, HCI, HF, H<sub>2</sub>O<sub>2</sub> 以紫外光-可見光光譜 硝酸,氫氟酸 / HNO<sub>3</sub>/HF 玻璃 / Glass 儀,量測樣品溶液在 540 金, 鉑, 鈀, 陶瓷 / 王水 / Aqua regia nm 的吸收度 / measure Gold, platinum, palladium, ceramic the absorbance at 540 銀 / Silver 硝酸 / HNO<sub>3</sub> nm by UV-VIS 塑膠 / Plastic 硫酸, 雙氧水, 硝酸, 鹽酸 / H<sub>2</sub>SO<sub>4</sub>, H<sub>2</sub>O<sub>2</sub>, HNO<sub>3</sub>, HCI 其他 / Others 加入任何酸至完全溶解 /

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°C.

Any acid to total digestion

(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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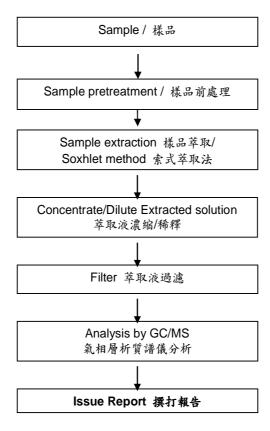


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### 多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART

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



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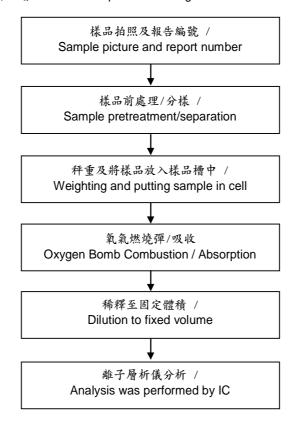


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## 鹵素分析流程圖 / Analytical flow chart of halogen content

- 1) 測試人員: 洪秀真/ Name of the person who made measurement: Jean Hung
- 2) 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/2014/61560



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