



## 測試報告

## Test Report

號碼(No.): ETR24200953

日期(Date): 19-Feb-2024

頁數(Page): 1 of 8

台灣三菱化學股份有限公司 (MITSUBISHI CHEMICAL TAIWAN CO., LTD.)

新竹縣湖口鄉光復路62號 (NO.62, GUANGFU RD., HUKOU TOWNSHIP, HSINCHU COUNTY 303036, TAIWAN)

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 the applicant as) :

樣品名稱(Sample Name) : 負型光阻劑  
樣品型號(Style/Item No.) : GAUT30-14D

收件日(Sample Receiving Date) : 07-Feb-2024  
測試期間(Testing Period) : 07-Feb-2024 to 19-Feb-2024

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) 依據客戶指定，測試鹵素-氟、氯、溴、碘。 (As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine in the submitted sample.)  
測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages.)

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



PIN CODE: 4AC1C1D7

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測試部位敘述 (Test Part Description)  
No.1 : 綠色液體 (GREEN LIQUID)

測試結果 (Test Results)

| 測試項目<br>(Test Items)                    | 測試方法<br>(Method)                                                                                                                       | 單位<br>(Unit) | MDL | 結果<br>(Result) |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------|-----|----------------|
|                                         |                                                                                                                                        |              |     | No.1           |
| 鎘 (Cd) (Cadmium (Cd))                   | 參考IEC 62321-5: 2013 · 以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)                         | mg/kg        | 2   | n.d.           |
| 鉛 (Pb) (Lead (Pb))                      | 參考IEC 62321-5: 2013 · 以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)                         | mg/kg        | 2   | n.d.           |
| 汞 (Hg) (Mercury (Hg))                   | 參考IEC 62321-4: 2013+ AMD1: 2017 · 以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.) | mg/kg        | 2   | n.d.           |
| 六價鉻 Cr(VI) (Hexavalent Chromium Cr(VI)) | 參考IEC 62321-7-2: 2017 · 以紫外光-可見光分光光度計分析。(With reference to IEC 62321-7-2: 2017, analysis was performed by UV-VIS.)                     | mg/kg        | 8   | n.d.           |
| 一溴聯苯 (Monobromobiphenyl)                | 參考IEC 62321-6: 2015 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)                             | 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.           |
| 多溴聯苯總和 (Sum of PBBs)                    |                                                                                                                                        | mg/kg        | -   | n.d.           |

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新竹縣湖口鄉光復路62號 (NO.62, GUANGFU RD., HUKOU TOWNSHIP, HSINCHU COUNTY 303036, TAIWAN)

| 測試項目<br>(Test Items)                                        | 測試方法<br>(Method)                                                                                           | 單位<br>(Unit) | MDL | 結果<br>(Result) |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------|-----|----------------|
|                                                             |                                                                                                            |              |     | No.1           |
| 一溴聯苯醚 (Monobromodiphenyl ether)                             | 參考IEC 62321-6: 2015 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.) | 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.           |
| 多溴聯苯醚總和 (Sum of PBDEs)                                      |                                                                                                            | mg/kg        | -   | n.d.           |
| 鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))              | 參考IEC 62321-8: 2017 · 以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.) | mg/kg        | 50  | n.d.           |
| 鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))                    |                                                                                                            | mg/kg        | 50  | n.d.           |
| 鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP)) |                                                                                                            | mg/kg        | 50  | n.d.           |
| 鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))              |                                                                                                            | mg/kg        | 50  | n.d.           |
| 氟 (F) (Fluorine (F)) (CAS No.: 14762-94-8)                  | 參考BS EN 14582: 2016 · 以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)        | mg/kg        | 50  | n.d.           |
| 氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)                |                                                                                                            | mg/kg        | 50  | 7150           |
| 溴 (Br) (Bromine (Br)) (CAS No.: 10097-32-2)                 |                                                                                                            | mg/kg        | 50  | 17600          |
| 碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)                    |                                                                                                            | mg/kg        | 50  | n.d.           |

- 備註(Note) :
- 1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
  - 2. MDL = Method Detection Limit (方法偵測極限值)
  - 3. n.d. = Not Detected (未檢出) ; 小於MDL / Less than MDL
  - 4. "-" = Not Regulated (無規格值)

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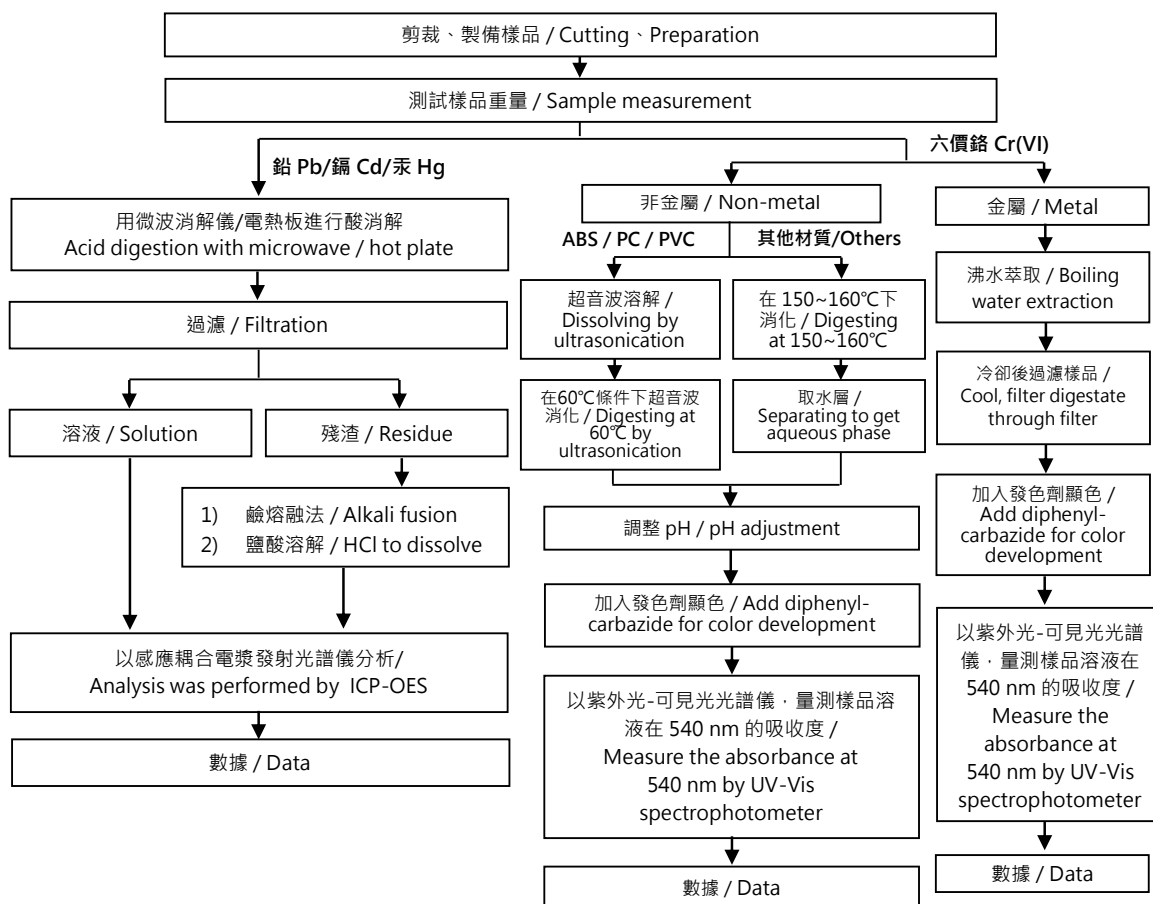
台灣三菱化學股份有限公司 (MITSUBISHI CHEMICAL TAIWAN CO., LTD.)

新竹縣湖口鄉光復路62號 (NO.62, GUANGFU RD., HUKOU TOWNSHIP, HSINCHU COUNTY 303036, TAIWAN)

## 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.

(Cr<sup>6+</sup> test method excluded)

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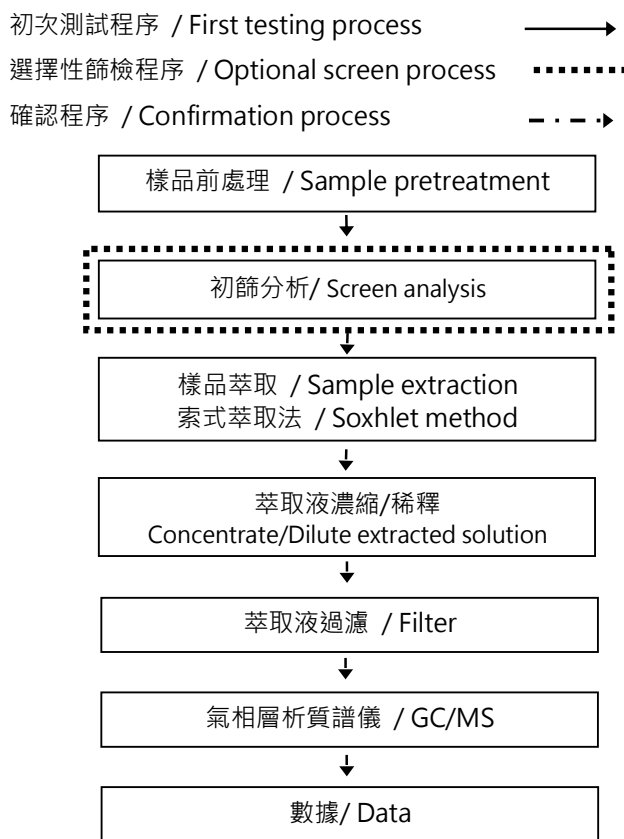
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### 多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs



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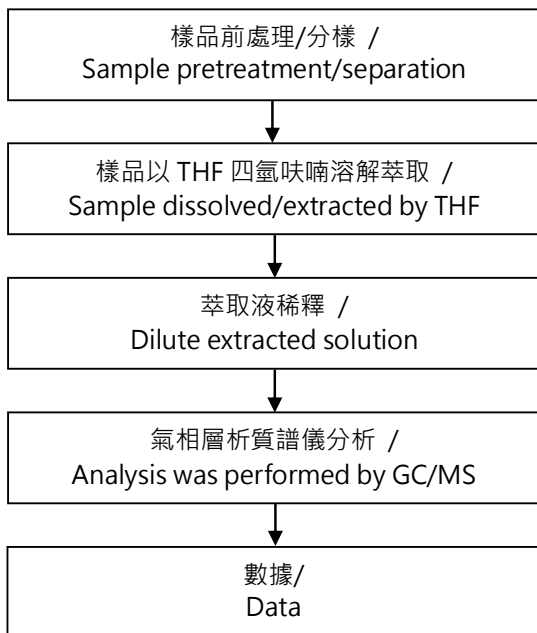
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### 可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



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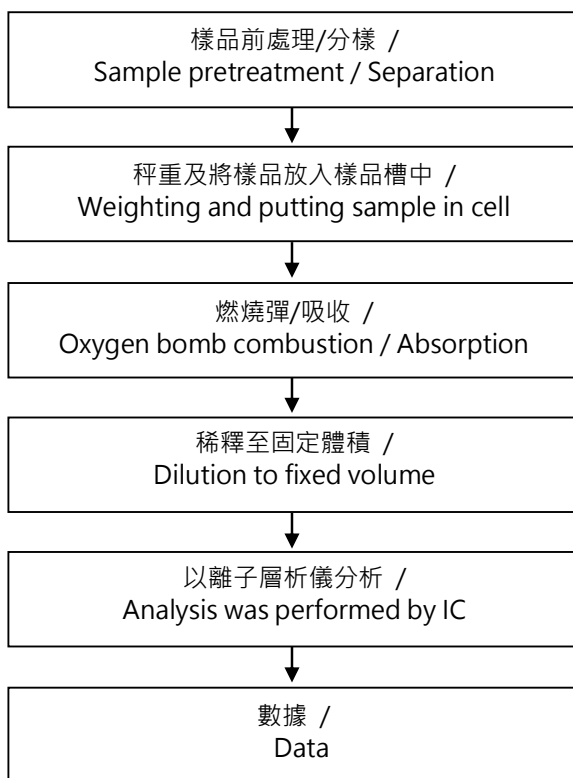
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### 鹵素分析流程圖 / Analytical flow chart - Halogen



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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.)

**ETR24200953**

\*\* 報告結尾 (End of Report) \*\*

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