

## 測試報告

## Test Report

號碼(No.): ETR21804103

日期(Date): 26-Aug-2021

頁數(Page): 1 of 5

友嘉科技股份有限公司 (UNION OPTRONICS CORP.)

桃園市楊梅區高獅路156號 (NO. 156, GAOSHIH RD., YANGMEI DIST., TAOYUAN CITY 326, 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) : 友嘉科技股份有限公司 (UNION OPTRONICS CORP.)  
樣品名稱(Sample Name) : SEMICONDUCTOR LASER DIODES  
樣品型號(Style/Item No.) : THE SERIES OF INFRARED LASER DIODE CHIP

收件日(Sample Receiving Date) : 19-Aug-2021  
測試期間(Testing Period) : 19-Aug-2021 to 26-Aug-2021

測試需求(Test Requested) : 依據客戶要求，參考美國毒管法(TSCA) 第 6(h) 章節，進行5項持久性生物累積毒性物質 (PBTs) 測試，測試項目請參閱測試結果表格。(As specified by client, the sample(s) was/were tested for 5 PBTs with reference to Regulation of Persistent, Bioaccumulative, Toxic (PBT) Chemicals under Toxic Substances Control Act (TSCA) Section 6(h). Please refer to result table for testing item(s).)

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

結論(Conclusion) : 根據客戶所提供的樣品，其測試結果符合美國毒管法(TSCA) 第 6(h) 章節，持久性生物累積毒性物質 (PBTs)之限值要求。(Based on the performed tests on submitted sample(s), the test result(s) comply with the limits as set by Persistent, Bioaccumulative, Toxic (PBT) Chemicals under Toxic Substances Control Act (TSCA) Section 6(h).)

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



PIN CODE: D2AE9420

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### 測試部位敘述 (Test Part Description)

No.1 : 晶片 (CHIP)

### 測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
十溴聯苯醚 (DecaBDE) (Decabromodiphenyl ether (DecaBDE)) (CAS No.: 1163-19-5)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	Prohibited / N/A(*3)
異丙基化磷酸三苯酯 (PIP 3:1) (Phenol, isopropylated, phosphate (3:1) (PIP 3:1)) (CAS No.: 68937-41-7)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	Prohibited / N/A(*1)
2,4,6-三叔丁基酚 (2,4,6-TTBP) (2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP)) (CAS No.: 732-26-3)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	3000 / N/A(*2)
五氯苯硫酚 (PCTP) (Pentachlorothiophenol (PCTP)) (CAS No.: 133-49-3)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	10000
六氯丁二烯 (HCBD) (Hexachlorobutadiene (HCBD)) (CAS No.: 87-68-3)	參考US EPA 3550C: 2007 · 以氣相層析儀/質譜儀分析。(With reference to US EPA 3550C: 2007, analysis was performed by GC/MS.)	mg/kg	5	n.d.	Prohibited

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### 備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 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. 詳細法規說明請點以下網址連結。(Detail explanation of the regulation is available at the following link.)  
<https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals-under>
5. N/A(\*1) : 若產品/成品為以下，則不適用 (The submitted sample is exempted from the regulated scope if it is anyone of the following) :
  - 航空或軍用液壓油 (Hydraulic fluids for aviation or military)
  - 潤滑劑和油脂 (Lubricants and grease)
  - 汽車和航空航天器的新零件和替換零件 (New and replacement parts for motor and aerospace vehicles)
  - 在封閉系統中製造氰基丙烯酸酯粘合劑 (Manufacture of cyanoacrylate adhesives in closed systems)
  - 火車和船舶應用的專用發動機空氣濾清器 (Specialized engine air filters for locomotive and marine applications)
  - 從含PIP(3:1)的產品或成品中回收的塑料 (Plastic for recycling from PIP (3:1)-containing products or articles)
  - 從包含PIP(3:1)的產品或成品中回收的塑料製成的成品或成品 (Finished products or articles made of plastic recycled from PIP (3:1)-containing products or articles)
6. N/A(\*2) : 若產品為非作為潤滑油中添加劑，則不適用。(The submitted sample is exempted from the regulated scope if it is not oil and lubricant additives.)
7. N/A(\*3) : 若產品/成品為以下，則不適用 (The submitted sample is exempted from the regulated scope if it is anyone of the following) :  
從產品或成品進行加工和分銷含十溴二苯醚回收的塑料或者由這種再生塑料製成的含十溴二苯醚的產品或成品。  
(Exempts processing and distribution for recycling of DecaBDE-containing plastic from products or articles and DecaBDE-containing products or articles made from such recycled plastic.)
8. 符合性結果之判定係以測試結果與限值做比較。(The statement of compliance conformity is based on comparison of testing results and limits.)

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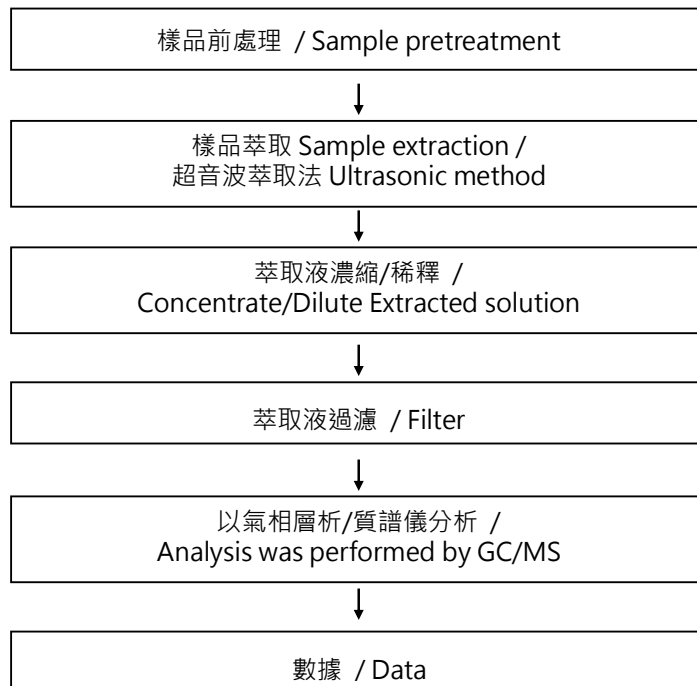
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### 持久性生物累積毒性物質 (PBTs) 分析流程圖 /

### Analytical flow chart - Persistent, Bioaccumulative, Toxic (PBTs)



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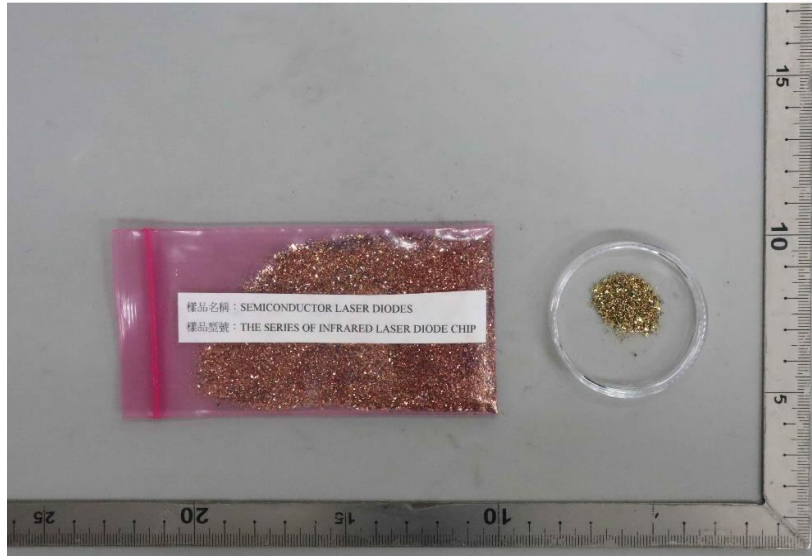
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\* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。\*

(The tested sample / part is marked by an arrow if it's shown on the photo.)

### ETR21804103



\*\* 報告結尾 (End of Report) \*\*

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