TÜVRheinland®
Precisely Right.



| | |
|---|---|
| ***Report No. 報告號碼:*** | 48309544b14 001 |
| ***Client 客戶:*** | ISOLA GROUP |
| ***Test item(s) 測試樣品:*** | Laminate |
| ***Identification/Model No(s): 樣品描述/規格:*** | Tachyon 100G |
| ***Sample obtaining method: 樣品獲取方式:*** | Sending by customer |
| ***Condition at delivery: 樣品接收狀態:*** | Test item complete and undamaged. |
| ***Sample receiving date: 收樣日期:*** | 2026-09-22 |
| ***Testing period: 測試週期:*** | 2026-09-22 – 2026-10-12 |
| ***Place of testing: 測試地點:*** | Chemical laboratory Hong Kong |

***Test specification 測試要求:***

Testing according to customer's specification for the following parameters:

Halogen/鹵素 (Fluorine/氟, Chlorine/氯, Bromine/溴, Iodine/碘), Perfluorooctane Sulfonate (PFOS)/全氟辛烷磺酸, Perfluorooctanoic Acid (PFOA)/全氟辛酸, Bisphenol-A (BPA)/雙酚-A, Arsenic (As)/砷, Antimony (Sb)/銻, Beryllium (Be)/鈹, Nickel (Ni)/鎳, Tin (Sn)/錫, Phosphorus (P)/磷, Organotin compounds/有機錫化合物, Polyvinyl chloride (PVC)/聚氯乙烯, Total Volatile organic compounds (TVOC)/總揮發性有機化合物, Phthalates/鄰苯二甲酸酯 (DnHP,DMEP,DnPP) , 1,1'-(ethane-1,2-diyl)bis[pentabromobenzene] (DBDPE)/十溴二苯乙烷, Total organic fluorine/總有機氟

***Test result 測試結果:***

Refer to result page
*參照測試報告*

**For and on behalf of**
**TÜV Rheinland Hong Kong Ltd.**

2026-10-15
Date *日期*

Amenda Yung / Senior CS Manager
Name/Position *姓名/職位*

**Report Authenticity Verification, please email: softlines@twn.tuv.com.**
**報告真實性確認，如需驗證，請電郵至 softlines@twn.tuv.com。**

*Sample information is provided by customer. Test result is drawn according to the kind and extent of tests performed.*
*This test report relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts.*
*This test report does not entitle to carry any safety mark on this or similar products.*
*"Decision Rule" document announced in our website (https://www.tuv.com/landingpage/en/qm-gcn/) describes the statement of conformity and its rule of enforcement for test results are applicable throughout this test report.*
*樣品信息由客戶提供。測試結果根據所做測試的種類和範圍而得出。本測試報告僅對來樣負責。未經本測試中心許可，測試報告不得部分複製。*
*不能根據此報告在上述產品或類似產品上使用任何安全標誌。本測試報告中，描述符合性聲明所應用的判定規則發佈在我司官網 https://www.tuv.com/landingpage/en/qm-gcn/。*

**Tested Material list/測試材料清單**

Item: Tachyon 100G

| Material No./ 材料編號 | Material/材質 | Color/顏色 | Location/位置 |
|---|---|---|---|
| 1 | Composite material/複合材料 | Bronze/青銅色 | TCL260922-14 |

**Test Sample/測試樣品**



Test Result 測試結果

| | | | | Mat.1 |
|---|---|---|---|---|
| **Test Item/測試項目** | **Test Method/ 測試方法** | **Unit / 單位** | **MDL** | **Result/ 結果** |
| **Halogen** / 鹵素 | | | | |
| Fluorine (F) / 氟 | With ref. to EN 14582:2016, IC/ 參考 EN 14582:2016, 離子層析儀 | mg/kg | 50 | n.d. |
| Chlorine (Cl) / 氯 | | mg/kg | 50 | n.d. |
| Bromine (Br) / 溴 | | mg/kg | 50 | 12481 |
| Iodine (I) / 碘 | | mg/kg | 50 | n.d. |
| Perfluorooctane Sulfonate (PFOS) and its salts/全氟辛烷磺酸及其鹽類* | Modified EN 17681-1:2025, CI-GCMS / GC-MSMS and LC-MSMS / 修改 EN 17681-1:2025, 化學離子化氣相色譜-質譜儀 /氣相層析串聯質譜儀 /液相層析/質譜儀分析 | mg/kg | 0.01 | n.d. |
| Perfluorooctanoic Acid (PFOA) and its salts/全氟辛酸及其鹽類** | | mg/kg | 0.01 | n.d. |
| Bisphenol-A (BPA)/雙酚-A | Organic solvent extraction, LC-MS/MS/ 有機溶劑萃取,液相層析串聯質譜儀 | mg/kg | 0.1 | n.d. |
| Arsenic (As)/砷 | With ref. to US EPA 3052:1996, ICP-OES/參考 US EPA 3052: 1996，感應耦合電漿發射光譜儀 | mg/kg | 2 | n.d. |
| Antimony (Sb)/銻 | | mg/kg | 2 | n.d. |
| Beryllium (Be)/鈹 | | mg/kg | 2 | n.d. |
| Nickel (Ni)/鎳 | | mg/kg | 2 | n.d. |
| Tin (Sn)/錫 | | mg/kg | 2 | n.d. |
| Phosphorus (P)/磷 | | mg/kg | 2 | 43 |
| **Organotin Compounds/有機錫化合物** | | | | |
| Tributyltin (TBT)/三丁基錫化合物 | With ref. to ISO 17353:2004, GC-MS /參考 ISO 17353: 2004，氣相層析儀-質譜儀 | mg/kg | 0.005 | n.d. |
| Triphenyltin (TPhT)/三苯基錫化合物 | | mg/kg | 0.005 | n.d. |
| Dibutyltin (DBT)/二丁基錫化合物 | | mg/kg | 0.005 | n.d. |
| Dioctyltin (DOT)/二辛基錫化合物 | | mg/kg | 0.005 | n.d. |
| Bis(tributyltin)/ oxide (TBTO)/ 三丁基氧化錫 | The substance is tested and calculated in terms of TBT/ 由三丁基錫測試結果計算得之 | mg/kg | 0.005 | n.d. |
| Polyvinyl chloride (PVC)/聚氯乙烯 | FTIR /傅立葉轉換紅外線光譜儀 | -- | -- | Negative |
| Total Volatile organic compounds (TVOC)/總揮發性有機化合物 | Headspace linked GC-MS; 90°C, 30 mins | µg/g | 1 | Toluene: 4.12 |

| | | | | Mat.1 |
|---|---|---|---|---|
| **Test Item/測試項目** | **Test Method/ 測試方法** | **Unit / 單位** | **MDL** | **Result/ 結果** |
| Di-n-hexyl phthalate (DnHP)/ 鄰苯二甲酸二正己酯 | With ref. to IEC 62321-8:2017, GC-MS/ 參考 IEC 62321-8: 2017, 氣相層析儀-質譜儀 | mg/kg | 50 | n.d. |
| Bis(2-methoxyethyl) phthalate (DMEP)/鄰苯二甲酸二甲氧乙酯 | | mg/kg | 50 | n.d. |
| Di-n-pentyl phthalate (DnPP)/ 鄰苯二甲酸二戊酯 | | mg/kg | 50 | n.d. |
| 1,1'-(ethane-1,2-diyl)bis[pentabromobenzene] (DBDPE)/十溴二苯乙烷 | Organic solvent extraction, GC-MS/ 有機溶劑萃取, 氣相層析儀-質譜儀 | mg/kg | 100 | 1700 |
| Total organic fluorine / 總有機氟 | In house method in combination with EN 14582:2016 / IEC 62321-3-2:2020; IC/ 內部方法與 EN 14582: 2016 / IEC 62321-3-2:2020 結合, 離子層析儀 | mg/kg | 10 | n.d. |

Notes/ 註釋:

MDL = Method Detection Limit/方法偵測極限值

n.d. = Not Detected/未檢出 ; Less than MDL/小於 MDL

mg/kg = milligram per kilogram/ 毫克每公斤

µg/g = micrograms per gram/微克每克

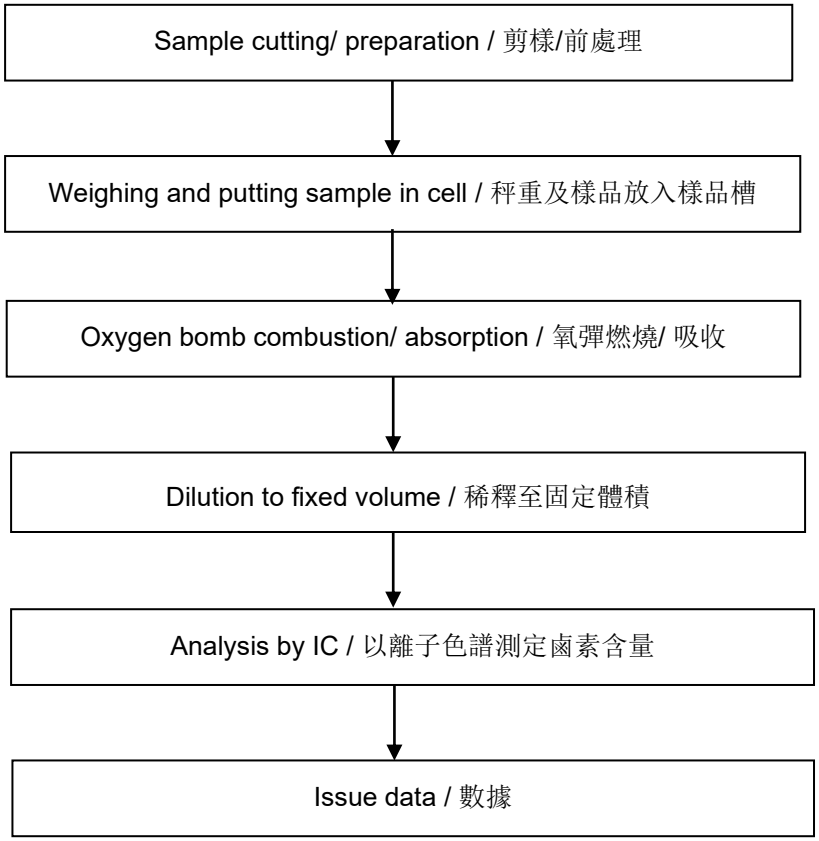
Negative/陰性 = Undetectable/未偵測到 ; Positive/陽性= Detectable/偵測到

* PFOS and its salts including: CAS no. 1763-23-1, 101360-77-4, 111873-33-7, 114174-50-4, 114519-83-4, 1203998-97-3, 124472-68-0, 213740-80-8, 2185049-59-4, 2205029-08-7, 251099-16-8, 258341-99-0, 2795-39-3, 29081-56-9, 29457-72-5, 307-35-7, 334529-63-4, 4021-47-0, 4021-48-1, 423-60-9, 423-92-7, 45298-90-6, 54439-46-2, 56773-42-3, 56773-44-5, 56773-56-9, 70225-14-8, 71463-74-6, 773895-92-4, 88825-77-8, 89560-90-7, 89560-91-8, 89560-92-9, 91036-71-4, 91036-72-5, 92011-18-2.

** PFOA and its salts including: CAS no. 335-67-1, 1376936-03-6, 1514-68-7, 17125-58-5, 17125-60-9, 2395-00-8, 222037-87-8, 277749-00-5, 32609-65-7, 33496-48-9, 335-64-8, 335-66-0, 335-93-3, 335-95-5, 35965-01-6, 3825-26-1, 423-52-9, 45285-51-6, 68141-02-6, 927835-01-6, 95658-47-2, 98065-31-7, 98241-25-9.

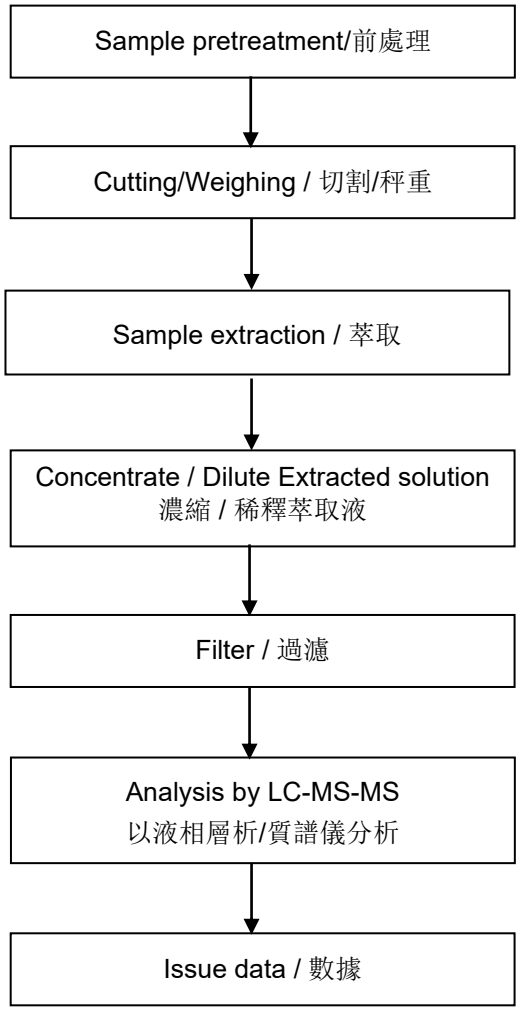
**Testing procedure / 測試流程圖 :**

Halogen/鹵素, Total organic fluorine/總有機氟



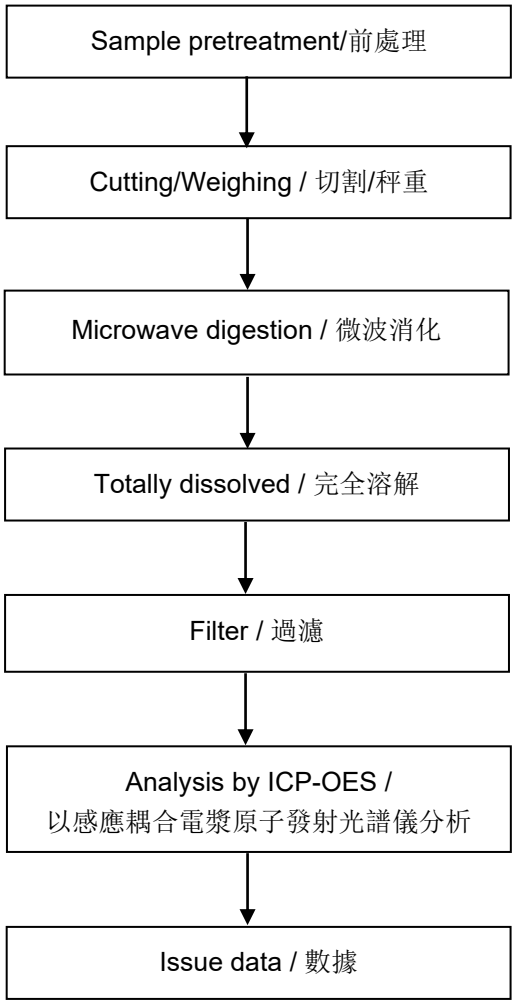
**Testing procedure / 測試流程圖 :**

PFOS/全氟辛烷磺酸, PFOA/全氟辛酸 ; BPA/雙酚-A



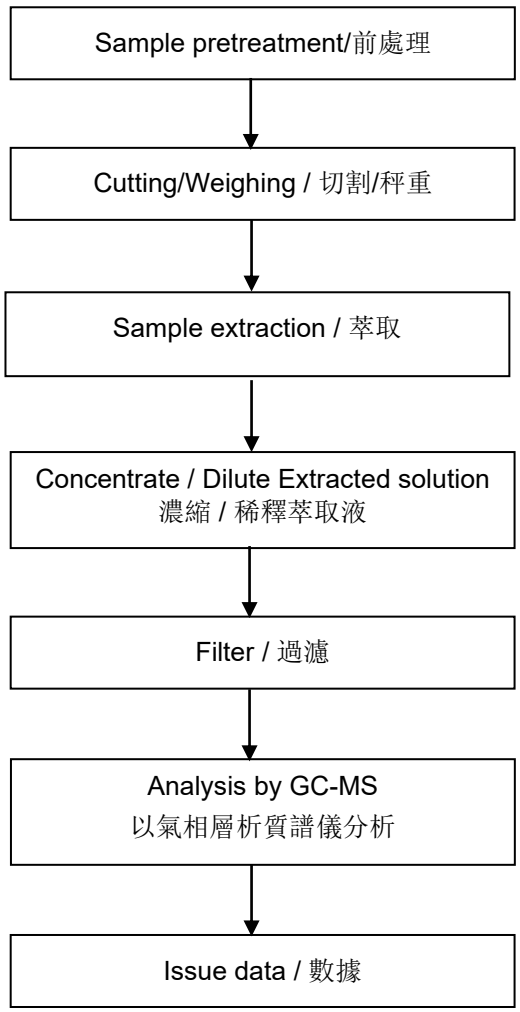
**Testing procedure / 測試流程圖 :**

As/砷, Sb/銻, Be/鈹, Ni/鎳, Sn/錫, P/磷



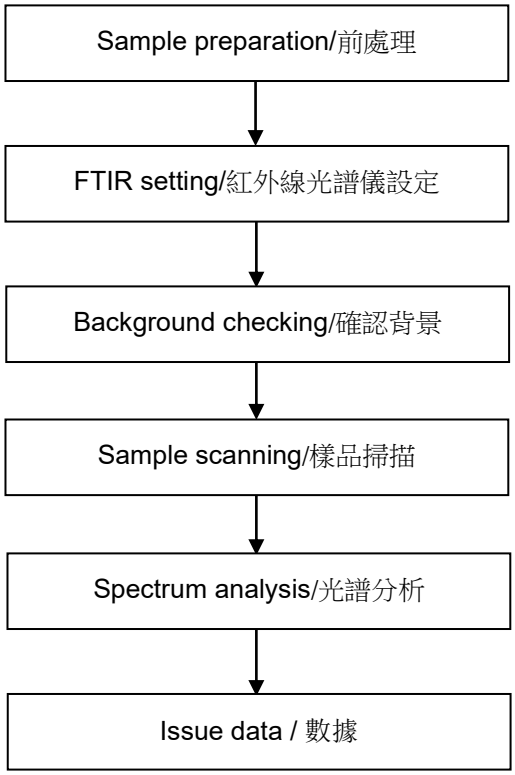
**Testing procedure / 測試流程圖 :**

Organotin compounds/有機錫化合物, Phthalates/鄰苯二甲酸酯, DBDPE/十溴二苯乙烷



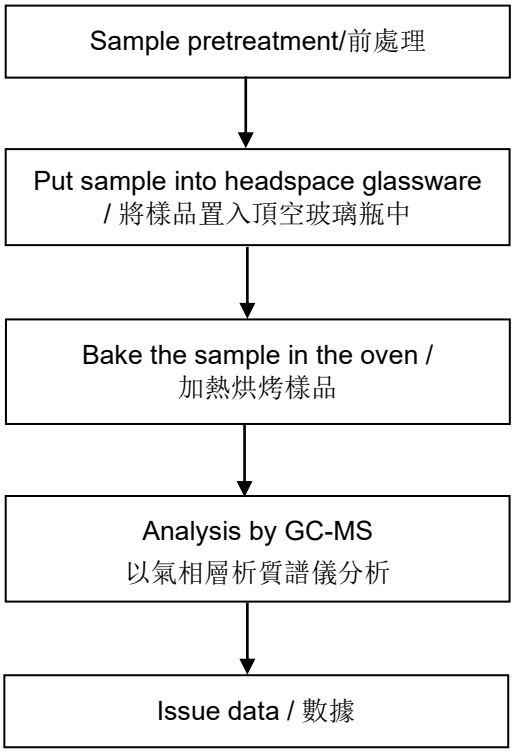
**Testing procedure / 測試流程圖 :**

PVC/聚氯乙烯



**Testing procedure / 測試流程圖 :**

Total Volatile organic compounds (TVOC)/總揮發性有機化合物




--- End of Test-Report / 此報告結束----