

檢測報告 Test Report



報告編號 A2200289565101002E
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報告抬頭公司名稱 高柏科技股份有限公司
Company Name T- GLOBAL TECHNOLOGY CO., LTD.
shown on Report
地 址 桃園市桃園區大仁路50巷33號
Address NO. 33, LN. 50, DAREN RD., TAOYUAN DIST., TAOYUAN CITY 330, TAIWAN

以下測試之樣品及樣品資訊由申請者提供並確認

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant

樣品名稱 陶瓷散熱片
Sample Name CERAMICS HEAT SPREDER
樣品型號 XL- 25W
Part No. XL- 25W
樣品接收日期 2020.08.25
Sample Received Date Aug. 25, 2020
樣品檢測日期 2020.08.25 - 2020.08.31
Testing Period Aug. 25, 2020 to Aug. 31, 2020

檢測要求 根據客戶要求, 對所提交樣品中的鉛(Pb), 鎘(Cd), 汞(Hg), 六價鉻(Cr(VI)), 多溴聯苯(PBBs), 多溴二苯醚(PBDEs), 鄰苯二甲酸酯(DBP, BBP, DEHP, DIBP), 氟(F), 氯(Cl), 溴(Br), 碘(I)進行測試。

Test Requested As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I) in the submitted sample(s).

檢測依據/檢測結果 請參見下頁。
Test Method/Test Result(s) Please refer to the following page(s).



主 檢

Tested by

批 准

Approved by

許新誠

馮智聰

馮智聰

實驗室經理 Laboratory Manager

審 核

Reviewed by

日 期

Date

戴秀珊

2020.08.31

No. R392335863

桃園市蘆竹區南崁路二段9號5樓之6

5F- 6, No.9, Sec.2, Nankan Rd, Luzhu Dist., Taoyuan, Taiwan

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檢測依據 Test Method

測試項目 Test Item(s)	測試方法 Test Method	測試儀器 Measured Equipment(s)
鉛 Lead(Pb)	IEC 62321- 5:2013	ICP- OES
鎘 Cadmium(Cd)	IEC 62321- 5:2013	ICP- OES
汞 Mercury(Hg)	IEC 62321- 4:2013+AMD1:2017 CSV	ICP- OES
六價鉻 Hexavalent Chromium(Cr(VI))	IEC 62321- 7- 2:2017	UV- vis
多溴聯苯 Polybrominated Biphenyls(PBBs)	IEC 62321- 6:2015	GC- MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321- 6:2015	GC- MS
鄰苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321- 8:2017	GC- MS
氟 Fluorine (F)	參考EN 14582:2016 Refer to EN 14582:2016	IC
氯 Chlorine (Cl)	參考EN 14582:2016 Refer to EN 14582:2016	IC
溴 Bromine (Br)	參考EN 14582:2016 Refer to EN 14582:2016	IC
碘 Iodine (I)	參考EN 14582:2016 Refer to EN 14582:2016	IC

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result	方法檢出限 MDL
鉛 Lead(Pb)	N.D.	2 mg/kg
鎘 Cadmium(Cd)	N.D.	2 mg/kg
汞 Mercury(Hg)	N.D.	2 mg/kg
六價鉻 Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg

測試項目 Tested Item(s)	結果 Result	方法檢出限 MDL
多溴聯苯 Polybrominated Biphenyls(PBBs)		
PBBs PBBs(PBBs)	N.D.	/
一溴聯苯 Monobromobiphenyl	N.D.	5 mg/kg
二溴聯苯 Dibromobiphenyl	N.D.	5 mg/kg
三溴聯苯 Tribromobiphenyl	N.D.	5 mg/kg
四溴聯苯 Tetrabromobiphenyl	N.D.	5 mg/kg
五溴聯苯 Pentabromobiphenyl	N.D.	5 mg/kg
六溴聯苯 Hexabromobiphenyl	N.D.	5 mg/kg
七溴聯苯 Heptabromobiphenyl	N.D.	5 mg/kg
八溴聯苯 Octabromobiphenyl	N.D.	5 mg/kg
九溴聯苯 Nonabromobiphenyl	N.D.	5 mg/kg
十溴聯苯 Decabromobiphenyl	N.D.	5 mg/kg

測試項目 Tested Item(s)	結果 Result	方法檢出限 MDL
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)		
PBDEs PBDEs(PBDEs)	N.D.	/
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result	方法檢出限 MDL
鄰苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)		
鄰苯二甲酸丁基苄基酯 Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg
鄰苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg
鄰苯二甲酸二丁酯 Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg
鄰苯二甲酸二異丁酯 Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg
測試項目 Tested Item(s)	結果 Result	方法檢出限 MDL
氟 Fluorine(F)	N.D.	10 mg/kg
氯 Chlorine(Cl)	N.D.	10 mg/kg
溴 Bromine(Br)	N.D.	10 mg/kg
碘 Iodine(I)	N.D.	10 mg/kg

樣品/部位描述 白色固體
Sample/Part Description White solid

備註: 對於檢測鉛, 鎘, 汞之樣品已完全溶解。

- N.D. = 未檢出 (小於方法檢出限)
- mg/kg = ppm = 百萬分之一

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million

注釋: 本報告中的資料結果供科研、教學、企業內部品質控制、企業產品研發等目的用。

Note: The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.

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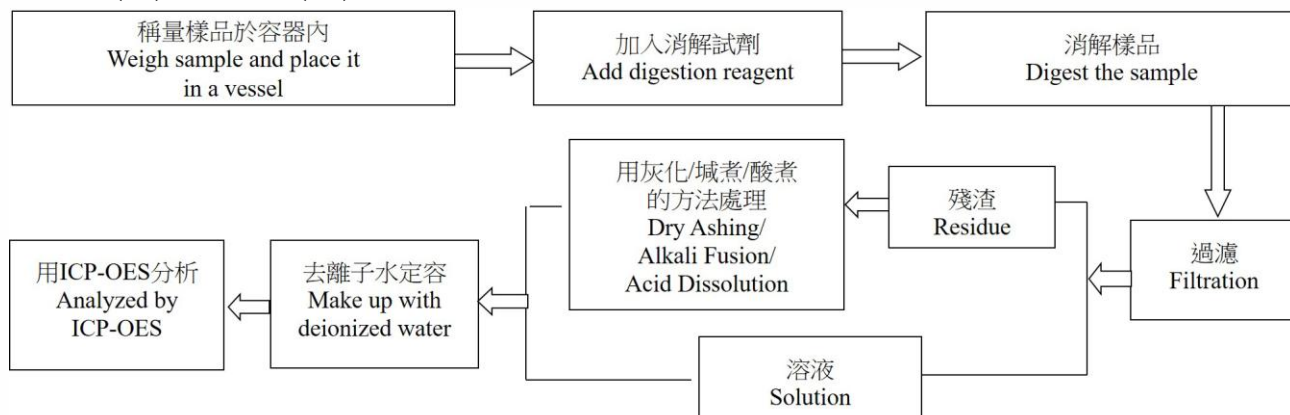
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檢測流程 Test Process

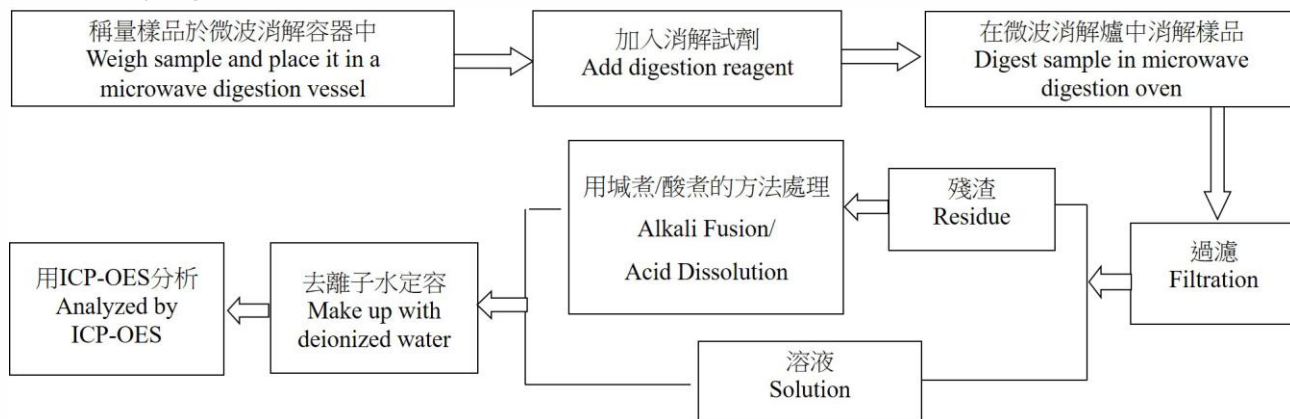
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Lead(Pb), Cadmium(Cd)



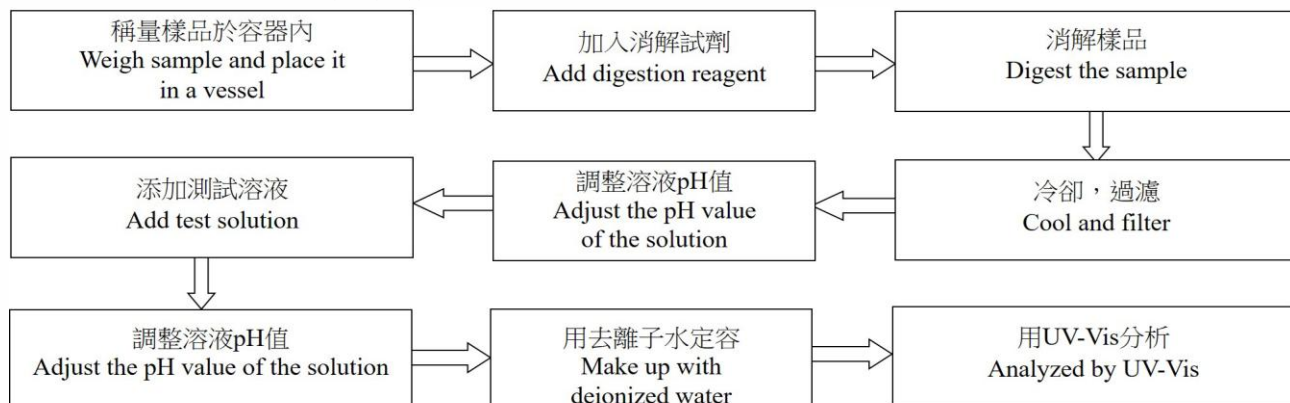
2. 汞(Hg)

Mercury(Hg)



3. 六價鉻(Cr(VI))

Hexavalent Chromium(Cr(VI))



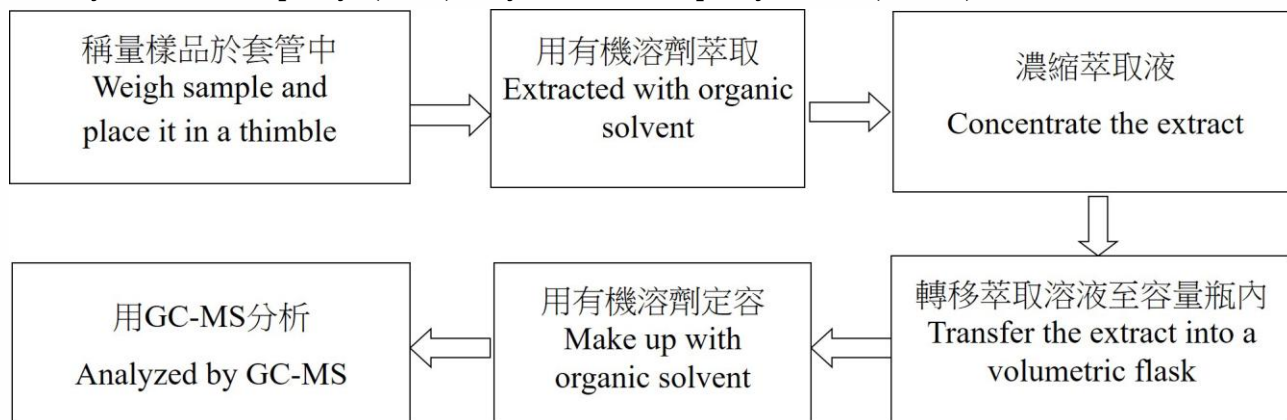
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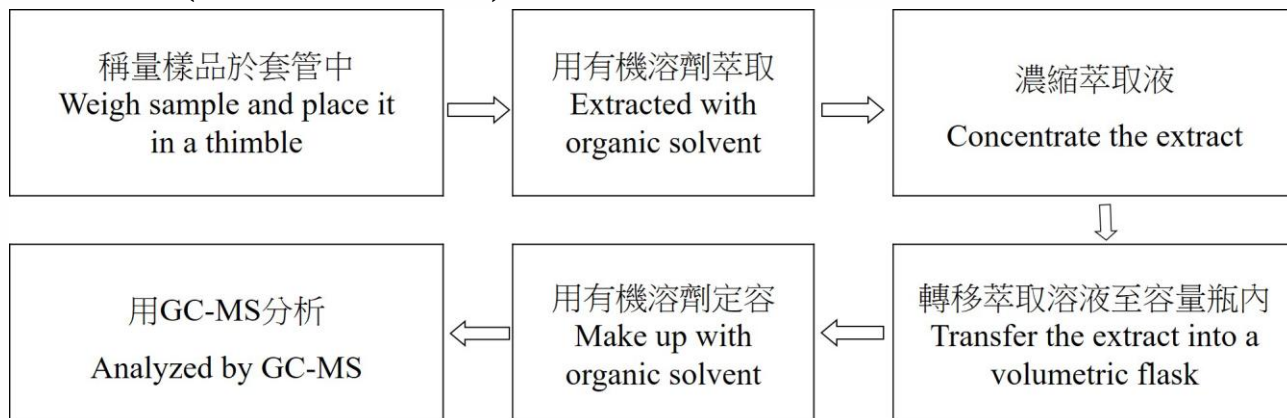
4. 多溴聯苯(PBBs), 多溴二苯醚(PBDEs)

Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)



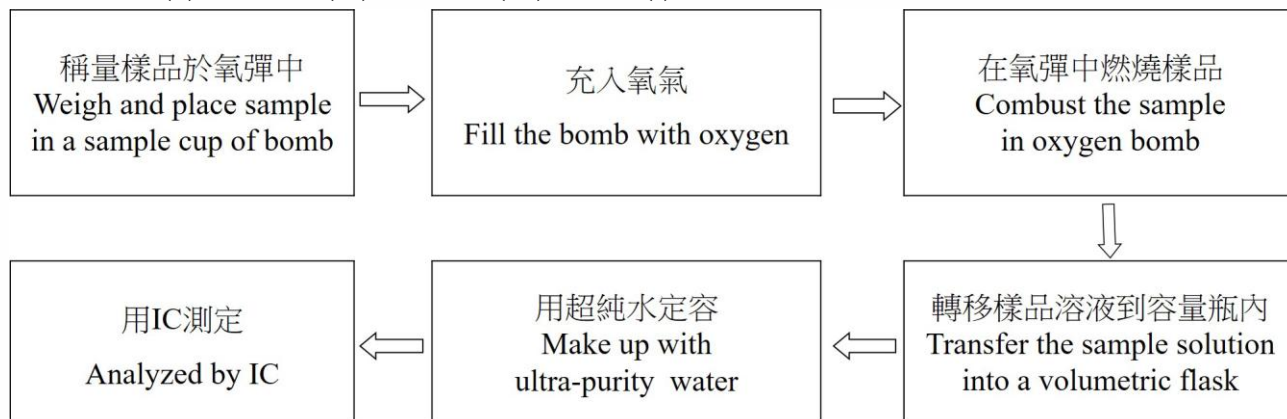
5. 鄰苯二甲酸酯(DBP, BBP, DEHP, DIBP)

Phthalates (DBP, BBP, DEHP, DIBP)



6. 氟(F), 氯(Cl), 溴(Br), 碘(I)

Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



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樣品圖片 Photo(s) of the sample(s)



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報告結束

*** End of report ***