

檢測報告 Test Report

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710,TAIWAN R.O.C.

以下測試之樣品及樣品信息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 client

樣品名稱	陽極磷銅
Sample Name	PHOSPHOR COPPER ANODE
樣品接收日期	2012.12.15
Sample Received Date	Dec. 15, 2012
樣品檢測日期	2012.12.15-2012.12.15
Testing Period	Dec. 15, 2012 to Dec. 15, 2012

檢測要求/檢測依據/檢測結果

請參見下頁。

Test Requested/Test Method/Test Result(s) Please refer to the following page(s).

主 檢

Rick Lin

審 核

Vangar He

Tested by

Reviewed by

批 准

Danny Liu

日 期

2012.12.15

Approved by

Date

Danny Liu
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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)，氟(F)，氯(Cl)，溴(Br)，碘(I)，鉍(Be)，銻(Sb)，六溴環十二烷(HBCDD)，全氟辛烷磺酸鹽(PFOS)，全氟辛烷酸(PFOA)，聚氯乙烯(PVC)，石棉，鄰苯二甲酸鹽，偶氮化合物進行測試。

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), Fluorine(F), Chlorine(Cl), Bromine(Br), Iodine(I), Beryllium(Be), Antimony (Sb), Hexabromocyclododecane(HBCDD), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA), Polyvinyl Chloride (PVC), Asbestos, Phthalates, AZO compounds in the submitted sample(s).

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檢測依據 Test Method

測試項目 Tested Item(s)	測試方法 Test Method	測試儀器 Measured Equipment(s)	方法檢測限 MDL
鉛 Lead (Pb)	IEC 62321:2008 Ed.1 Sec.9	ICP-OES	2 mg/kg
鎘 Cadmium (Cd)	IEC 62321:2008 Ed.1 Sec.9	ICP-OES	2 mg/kg
汞 Mercury (Hg)	IEC 62321:2008 Ed.1 Sec.7	ICP-OES	2 mg/kg
六價鉻 Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex B	UV-Vis	/
多溴聯苯 Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5 mg/kg
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5 mg/kg
鈹(Be) Beryllium(Be)	參考 US EPA 3052:1996 Refer to US EPA 3052:1996	ICP-OES	2 mg/kg
銻(Sb) Antimony (Sb)	參考 US EPA 3052:1996 Refer to US EPA 3052:1996	ICP-OES	5 mg/kg
氟 Fluorine (F)	參考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC	10 mg/kg
氯 Chlorine (Cl)	參考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC	10 mg/kg
溴 Bromine (Br)	參考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC	10 mg/kg
碘 Iodine (I)	參考 BS EN 14582:2007 Refer to BS EN 14582:2007	IC	10 mg/kg
六溴環十二烷 Hexabromocyclododecane (HBCDD)	參考 US EPA 3540C:1996 Refer to US EPA 3540C:1996	GC-MS	5 mg/kg
鄰苯二甲酸鹽 Phthalates	參考 EN 14372:2004 Refer to EN 14372:2004	GC-MS	50 mg/kg
全氟辛酸 Perfluorooctanoic Acid(PFOA)	參考 US EPA 3550C:2007 Refer to US EPA 3550C:2007	LC-MS-MS	5 mg/kg
全氟辛酸磺酸鹽 Perfluorooctane Sulfonates(PFOS)	參考 US EPA 3550C:2007 Refer to US EPA 3550C:2007	LC-MS-MS	5 mg/kg
聚氯乙烯(PVC) Polyvinyl Chloride (PVC)	/	FT-IR	/
石棉 Asbestos	/	FT-IR microscope	/
偶氮化合物 AZO compounds	參考 EN 14362-1:2012 Refer to EN 14362-1:2012	GC-MS	5 mg/kg

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result
鉛 Lead (Pb)	N.D.
鎘 Cadmium (Cd)	N.D.
汞 Mercury (Hg)	N.D.
六價鉻 Hexavalent Chromium (Cr(VI))	Negative

測試項目 Tested Item(s)	結果 Result
多溴聯苯 Polybrominated Biphenyls(PBBs)	
一溴聯苯 Monobromobiphenyl	N.D.
二溴聯苯 Dibromobiphenyl	N.D.
三溴聯苯 Tribromobiphenyl	N.D.
四溴聯苯 Tetrabromobiphenyl	N.D.
五溴聯苯 Pentabromobiphenyl	N.D.
六溴聯苯 Hexabromobiphenyl	N.D.
七溴聯苯 Heptabromobiphenyl	N.D.
八溴聯苯 Octabromobiphenyl	N.D.
九溴聯苯 Nonabromobiphenyl	N.D.
十溴聯苯 Decabromobiphenyl	N.D.
多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)	
一溴二苯醚 Monobromodiphenyl ether	N.D.
二溴二苯醚 Dibromodiphenyl ether	N.D.
三溴二苯醚 Tribromodiphenyl ether	N.D.
四溴二苯醚 Tetrabromodiphenyl ether	N.D.
五溴二苯醚 Pentabromodiphenyl ether	N.D.
六溴二苯醚 Hexabromodiphenyl ether	N.D.
七溴二苯醚 Heptabromodiphenyl ether	N.D.
八溴二苯醚 Octabromodiphenyl ether	N.D.
九溴二苯醚 Nonabromodiphenyl ether	N.D.
十溴二苯醚 Decabromodiphenyl ether	N.D.

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result
鈹(Be) Beryllium(Be)	N.D.
銻(Sb) Antimony (Sb)	N.D.

測試項目 Tested Item(s)	結果 Result
鹵素 Halogens	
氟 Fluorine (F)	N.D.
氯 Chlorine (Cl)	N.D.
溴 Bromine (Br)	N.D.
碘 Iodine (I)	N.D.

測試項目 Tested Item(s)	結果 Result
六溴環十二烷 Hexabromocyclododecane (HBCDD)	N.D.

測試項目 Tested Item(s)	CAS 號 CAS No.	EC 號 EC No.	結果 Result
鄰苯二甲酸鹽 Phthalates			
鄰苯二甲酸二正丁酯 Dibutyl phthalate(DBP)	84-74-2	201-557-4	N.D.
鄰苯二甲酸丁基苄酯 Benzylbutyl phthalate(BBP)	85-68-7	201-622-7	N.D.
鄰苯二甲酸(2-乙基己基)酯 Di-2-ethylhexyl phthalate(DEHP)	117-81-7	204-211-0	N.D.
鄰苯二甲酸二正辛酯 Di-n-octyl phthalate(DNOP)	117-84-0	204-214-7	N.D.
鄰苯二甲酸二異壬酯 Diisononyl phthalate(DINP)	28553-12-0	249-079-5	N.D.
鄰苯二甲酸二異癸酯 Diisodecyl phthalate(DIDP)	26761-40-0	247-977-1	N.D.

測試項目 Tested Item(s)	結果 Result
全氟辛酸酸 Perfluorooctanoic Acid(PFOA)	N.D.
全氟辛酸磺酸鹽 Perfluorooctane Sulfonates(PFOS)	N.D.

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result
偶氮化合物 AZO compounds	
4-氨基聯苯 4-aminodiphenyl	N.D.
聯苯胺 Benzidine	N.D.
4-氯鄰甲苯胺 4-chloro-o-toluidine	N.D.
2-萘胺 2-naphthylamine	N.D.
鄰氨基偶氮甲苯 o-aminoazotoluene	N.D.
2-氨基-4-硝基甲苯 2-amino-4-nitrotoluene	N.D.
對氯苯胺 p-chloroaniline	N.D.
2,4-二氨基苯甲醚 2,4-diaminoanisole	N.D.
4,4'-二氨基二苯甲烷 4,4'-diaminodiphenylmethane	N.D.
3,3'-二氯聯苯胺 3,3'-dichlorobenzidine	N.D.
3,3'-二甲氧基聯苯胺 3,3'-dimethoxybenzidine	N.D.
3,3'-二甲基聯苯胺 3,3'-dimethylbenzidine	N.D.
3,3'-二甲基-4,4'-二氨基二苯甲烷 3,3'-dimethyl-4,4'-diaminodiphenylethane	N.D.
2-甲氧基-5-甲基苯胺 p-cresidine	N.D.
4,4'-次甲基-雙(2-氯苯胺) 4,4'-methylene-bis-(2-chloroaniline)	N.D.
4,4'-二氨基二苯醚 4,4'-oxydianiline	N.D.
4,4'-二氨基二苯硫醚 4,4'-thiodianiline	N.D.
鄰甲苯胺 o-toluidine	N.D.
2,4-二氨基甲苯 2,4-toluylenediamine	N.D.
2,4,5-三甲基苯胺 2,4,5-trimethylaniline	N.D.
鄰甲氧基苯胺 o-anisidine	N.D.
4-氨基偶氮苯 4-aminoazobenzene	N.D.
2,4-二甲基苯胺 2,4-Xylidine	N.D.
2,6-二甲基苯胺 2,6-Xylidine	N.D.

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檢測結果 Test Result(s)

測試項目 Tested Item(s)	結果 Result
聚氯乙烯 Polyvinyl Chloride(PVC)	Negative*
石棉 Asbestos	Negative*

測試樣品/部位描述 銅色金屬
Tested Sample/Part Description Cupreous metal

注釋: 對於檢測鉛, 鎘, 汞之樣品已完全溶解。
-N.D. = 未檢出 (小於方法檢測限)
-mg/kg = ppm = 百萬分之幾
-Negative 表示阴性
阴性=不含有六价铬, 由表面积为 50cm² 的样品所萃取出来的溶液中的六价铬的浓度小于 0.02mg/kg

备注: *-Negative = 不含有

Note: **The sample had been dissolved totally tested for Lead, Cadmium, Mercury.**

-MDL = Method Detection Limit
-N.D. = Not Detected (<MDL)
-mg/kg = ppm = parts per million
-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm² sample surface area used.

Remark: *-Negative = Not Contained

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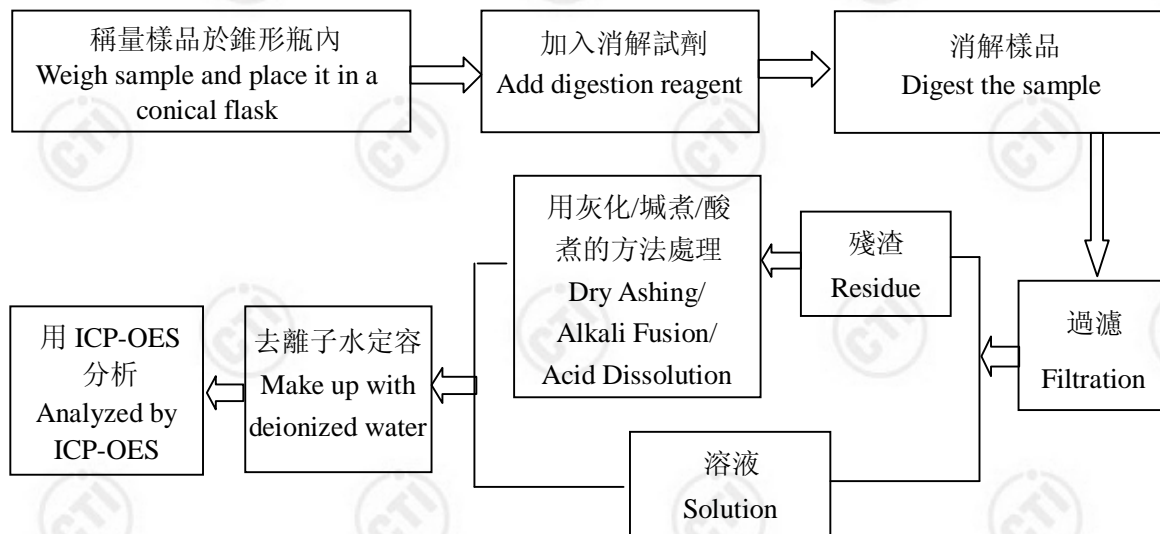
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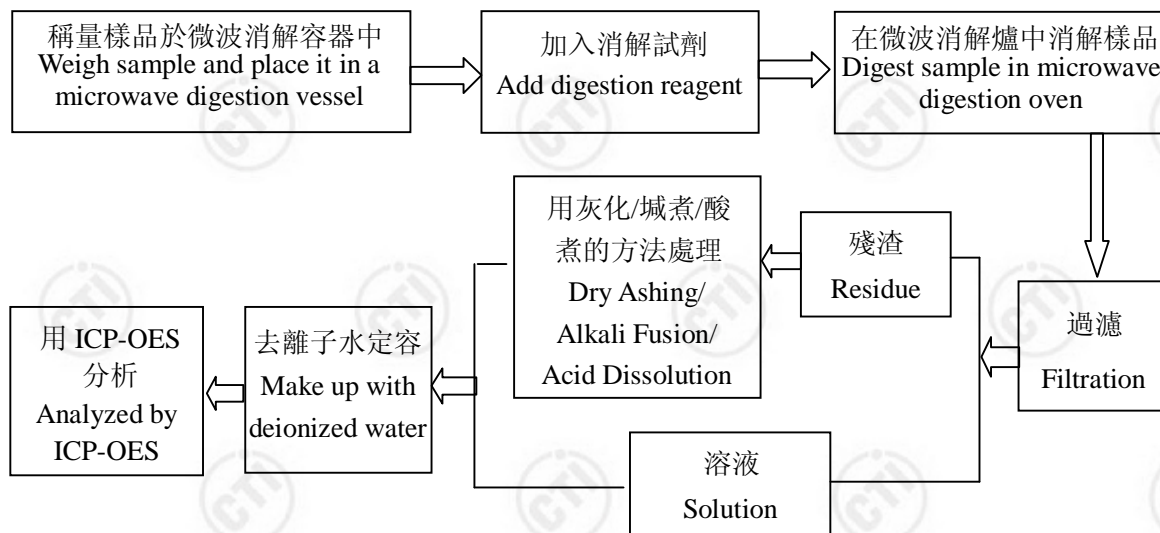
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檢測流程 Test Process

1. 鉛 Lead(Pb), 鎘 Cadmium(Cd)



2. 汞 Mercury(Hg)



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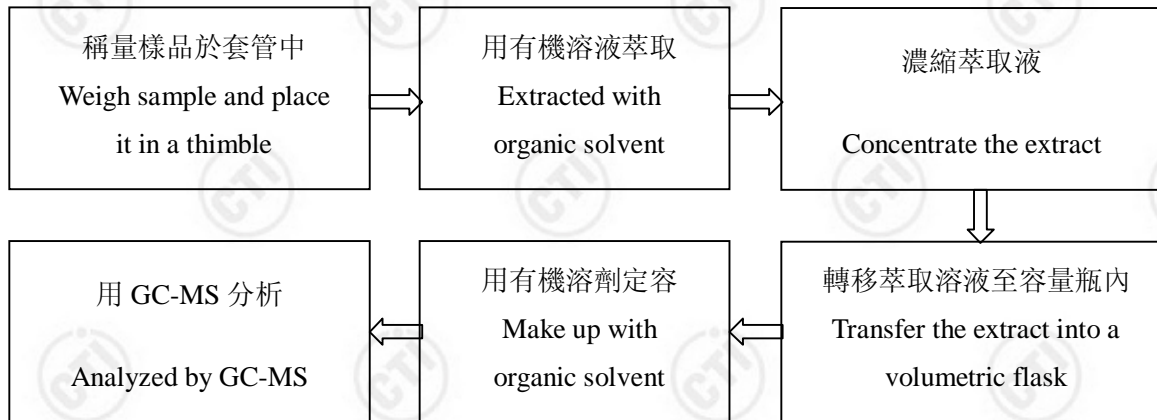
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3. 六價鉻 Hexavalent Chromium (Cr(VI))



4. 多溴聯苯 Polybrominated Biphenyls(PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)

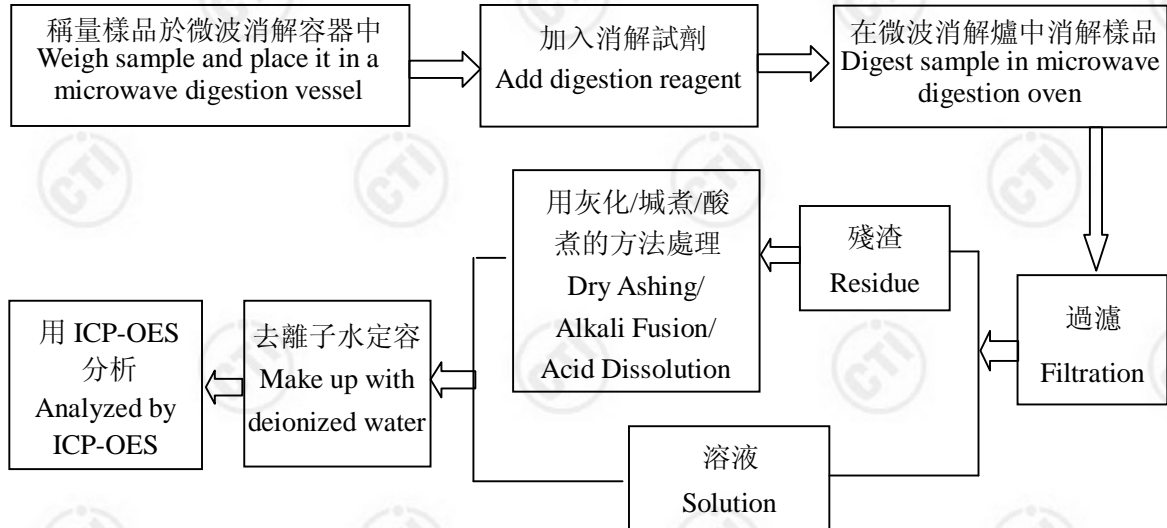


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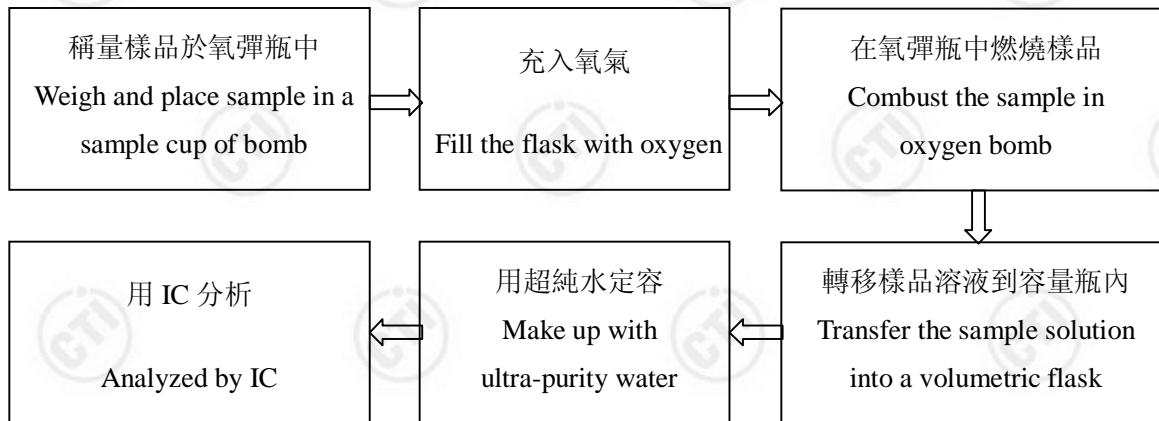
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5. 鈹 Beryllium(Be), 銻 Antimony (Sb)



6. 氟 Fluorine (F), 氯 Chlorine (Cl), 溴 Bromine (Br), 碘 Iodine (I)

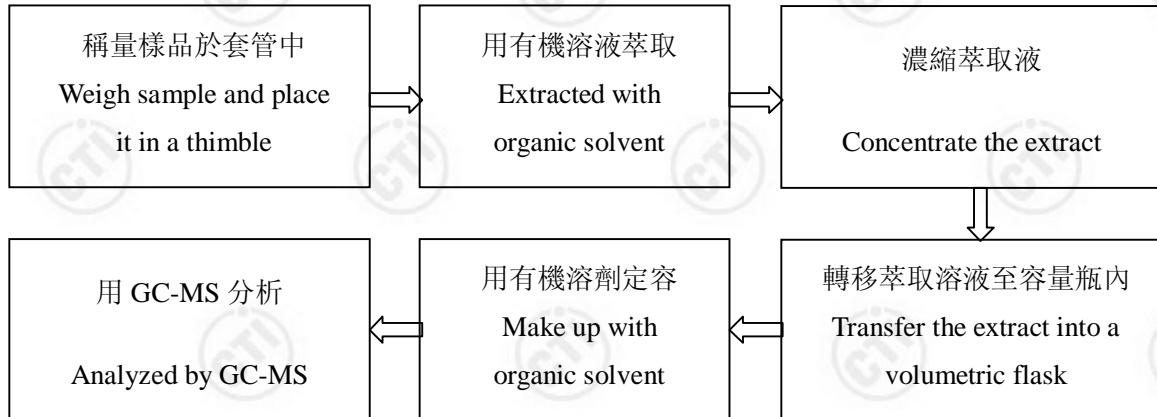


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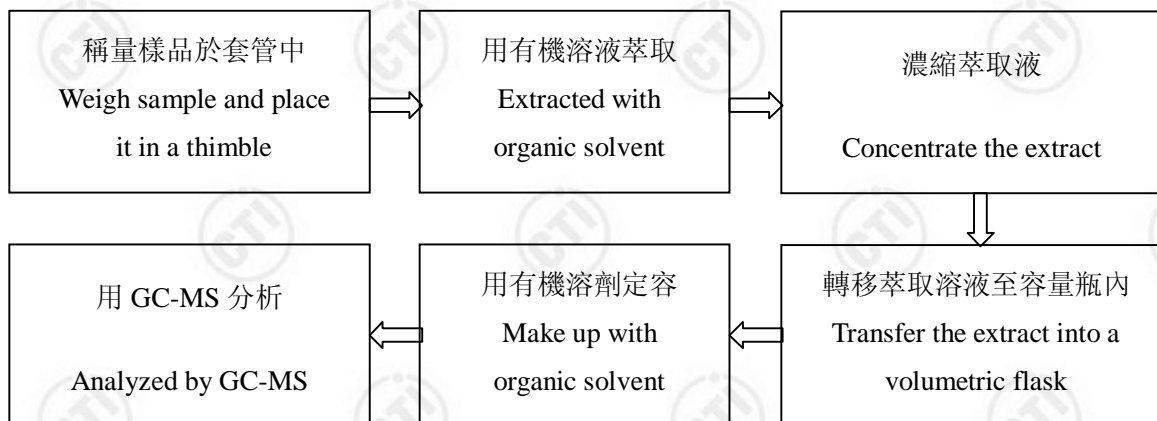
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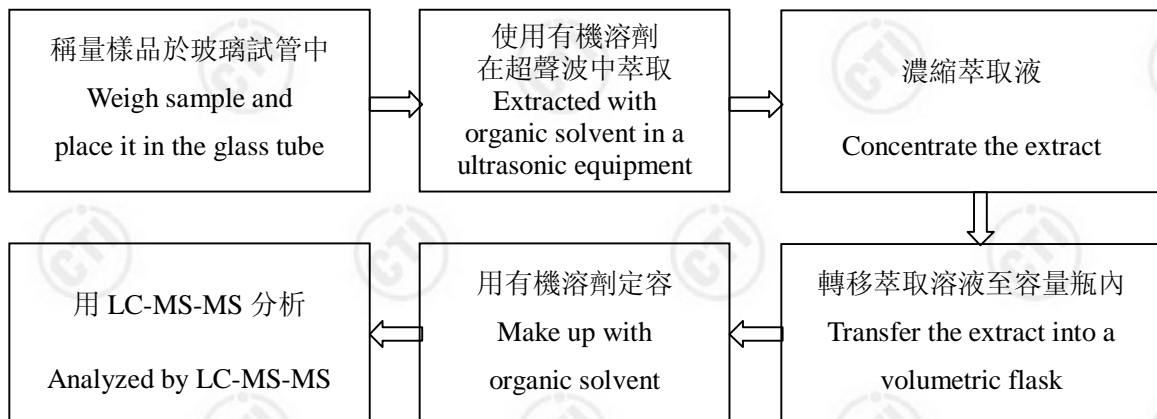
7. 六溴環十二烷 Hexabromocyclododecane (HBCDD)



8. 鄰苯二甲酸鹽 Phthalates



9. 全氟辛烷酸 Perfluorooctanoic Acid(PFOA), 全氟辛烷磺酸鹽 Perfluorooctane Sulfonates(PFOS)

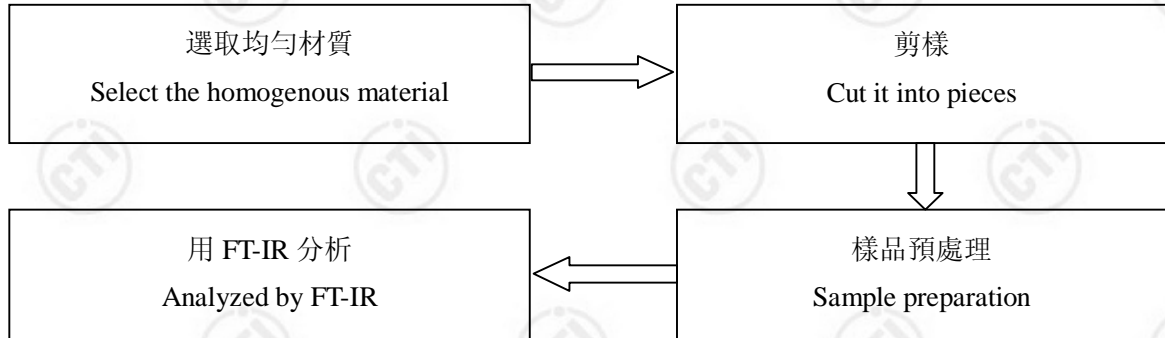


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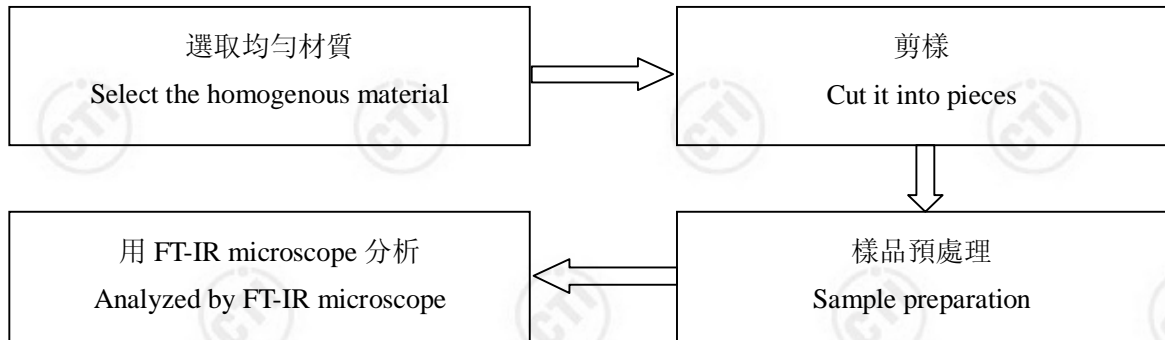
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10. 聚氯乙烯 Polyvinyl Chloride (PVC)



11. 石棉 Asbestos



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樣品圖片

Photo(s) of the sample(s)



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*** End of Report ***

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