

Test Report 測試報告

Applicant: Formosa Plastics Corporation
申請廠商 台灣塑膠工業股份有限公司
Formosa Industrial Complex,
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Taiwan
Technical Department,
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雲林縣麥寮鄉台塑工業園區 1 號

Number : TWNC0109613801
報告號碼

Issue Date : Jul 28, 2022
報告發行日期

Sample Description 樣品敘述:

One (1) Group of Submitted Samples Said To Be :

以下測試樣品乃供應商所提供及確認:

Sample Description : 液鹼(SODIUM HYDROXIDE SOLUTION)

樣品名稱

Date Sample Received : Jul 05, 2022

收件日期

Date Test Started : Jul 05, 2022

開始測試日期

Test Conducted 測試執行:

As requested by the applicant, for details please refer to attached pages.

依申請商之要求, 細節請參考附頁.

Conclusion 結論:

Tested Sample 測試樣品

Submitted Samples

送檢樣品

Standard 標準

As per applicant's request 依據客戶要求

– Sony (SS-00259, Twentieth Edition)

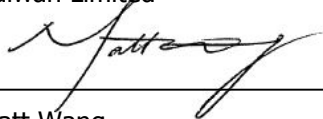
Sony (SS-00259, 第 20 版)

Result 結果

See Test Conducted

請見測試內容

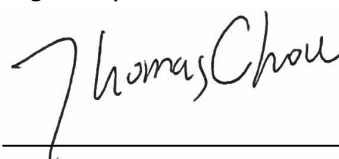
Authorized By:
On behalf of Intertek Testing Services
Taiwan Limited



Matt Wang
Director



Signed by:



Thomas Chou
Manager



Test Conducted 測試內容 :

Test Result Summary 測試結果:

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Lead (Pb) Content 鉛含量	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES. 參考 IEC 62321-5: 2013，以微波消化法消化樣品並用感應耦合電漿原子發射光譜儀分析。	ND	2
Cadmium (Cd) Content 鎘含量	ppm	With reference to IEC 62321-5: 2013, by microwave or acid digestion and determined by ICP-OES. 參考 IEC 62321-5: 2013，以微波消化法消化樣品並用感應耦合電漿原子發射光譜儀分析。	ND	2
Mercury (Hg) Content 汞含量	ppm	With reference to IEC 62321-4:2013+AMD1:2017, by microwave or acid digestion and determined by ICP-OES. 參考 IEC 62321-4:2013+AMD1:2017，以微波或酸液消化法消化樣品並用感應耦合電漿原子發射光譜儀分析。	ND	2
Chromium VI (Cr(VI)) Content 六價鉻含量	ppm	With reference to IEC 62321-7-2: 2017, organic solvent was used to dissolve or swell sample matrix, followed by alkaline digestion and determined by UV-Vis Spectrophotometer. 參考 IEC 62321-7-2:2017，以有機溶劑溶解或使樣品基質膨脹，再進行鹼液消化，用紫外光-可見光分光光度計分析。	ND	8



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Cobalt (Co) Compounds 鈷化合物				
Cobalt (Co) Content 鈷含量	ppm	Aqueous extraction method was used and determined by ICP-OES. 以水溶液萃取，並用感應耦合電漿原子放射光譜儀分析。	ND	10
Cobalt Dichloride (CoCl ₂) (Calculated by Co content) 二氯化鈷 (以 Co 含量計算)	ppm		ND	--
Specific Boric Acid and Derivatives Include 特定硼酸及其衍生物				
Boron (B) Content 硼含量	ppm	Aqueous extraction method was used and determined by ICP-OES. 以水溶液萃取，並用感應耦合電漿原子放射光譜儀分析。	ND	10
Boric Acid 硼酸 (Calculated by B content) (以硼含量計算)	ppm		ND	--
Disodium Tetraborate, Anhydrous 無水四硼酸二鈉 (Calculated by B content) (以硼含量計算)	ppm		ND	--
Diboron trioxide 三氧化二硼 (Calculated by B content) (以硼含量計算)	ppm		ND	--
Disodium octaborate 八硼酸二鈉 (Calculated by B content) (以硼含量計算)	ppm		ND	--
Tetraboron disodium heptaoxide, hydrate 含水七氧化四硼酸二鈉 (Calculated by B content) (以硼含量計算)	ppm		ND	--
Orthoboric acid, sodium salt 硼酸鈉鹽 (Calculated by B content) (以硼含量計算)	ppm		ND	--
Arsenic (As) Compounds 砷化合物				
Arsenic (As) Content 砷含量	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化法並用感應耦合電漿原子放射光譜儀分析。	ND	10
Diarsenic Pentoxide (As ₂ O ₅) (Calculated by As Content) 五氧化二砷 (以砷含量計算)	ppm		ND	--
Diarsenic Trioxide (As ₂ O ₃) (Calculated by As Content) 三氧化二砷 (以砷含量計算)	ppm		ND	--



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Beryllium (Be) Compounds 鈹化合物				
Beryllium (Be) Content 鈹含量	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化法並用感應耦合電漿原子放射光譜儀分析。	ND	10
Beryllium Oxide (BeO) (Calculated by Be Content) 氧化鈹 (以鈹含量計算)	ppm		ND	--
Lead (Pb) Compounds 鉛化合物				
Lead (Pb) Content 鉛含量	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化法並用感應耦合電漿原子放射光譜儀分析。	ND	10
Lead dinitrate (Calculated by Pb Content) 硝酸鉛(以鉛含量計算)	ppm		ND	--
Lead oxide sulfate (Basic lead sulfate) (Calculated by Pb Content) 鹼式硫酸鉛(以鉛含量計算)	ppm		ND	--
Lead titanium trioxide (Calculated by Pb Content) 鈦酸鉛(以鉛含量計算)	ppm		ND	--
Pentalead tetraoxide sulphate (Calculated by Pb Content) 氧化鉛與硫酸鉛的複合物 (以鉛含量計算)	ppm		ND	--
Trilead dioxide phosphonate (Calculated by Pb Content) 磷酸氧化鉛(以鉛含量計算)	ppm		ND	--
Tetralead trioxide sulphate (Calculated by Pb Content) 三鹼式硫酸鉛(以鉛含量計算)	ppm		ND	--
Dioxobis(stearato)trilead (Calculated by Pb Content) 雙(十八酸基)二氧代三鉛 (以鉛含量計算)	ppm		ND	--
Lead titanium zirconium oxide (Calculated by Pb Content) 鈦酸鉛鋯(以鉛含量計算)	ppm		ND	--
Lead chromate molybdate sulphate red (C.I. Pigment red 104) (Calculated by Pb Content) 紅色鉬鉻酸鉛硫酸鹽(C.I.紅色 104) (以鉛含量計算)	ppm		ND	--



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Lead (Pb) Compounds 鉛化合物				
Lead tetroxide (Orange lead) (Calculated by Pb Content) 四氧化三鉛(以鉛含量計算)	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化 法並用感應耦合電漿原子放射光 譜儀分析。	ND	--
Lead sulfochromate yellow (C.I. Pigment yellow 34) (Calculated by Pb Content) 黃色硫化鉻酸鉛(C.I.黃色 34) (以鉛含量計算)	ppm		ND	--
Lead cyanamidate (Calculated by Pb Content) 氨基氰鉛鹽(以鉛含量計算)	ppm		ND	--
Sulfurous acid, lead salt, dibasic (Calculated by Pb Content) 亞硫酸鉛(II)(以鉛含量計算)	ppm		ND	--
[Phthalato(2-)]dioxotrilead (Dibasic lead phthalate) (Calculated by Pb Content) 二鹽基鄰苯二甲酸鉛(以鉛含量計算)	ppm		ND	--
Lead chromate (Calculated by Pb Content) 鉻酸鉛(以鉛含量計算)	ppm		ND	--
Pyrochlore, antimony lead yellow (Calculated by Pb Content) 顏料黃 41(以鉛含量計算)	ppm		ND	--
Fatty acids, C16-18, lead salts (Calculated by Pb Content) C16-18 脂肪酸鉛鹽(以鉛含量計算)	ppm		ND	--
Cadmium (Cd) Compounds 鎘化合物				
Cadmium (Cd) Content 鎘含量	ppm		ND	10
Cadmium oxide (Calculated by Cd Content) 氧化鎘(以鎘含量計算)	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化 法並用感應耦合電漿原子放射光 譜儀分析。	ND	--
Cadmium sulphide (Calculated by Cd Content) 硫化鎘(以鎘含量計算)	ppm		ND	--
Cadmium hydroxide (Calculated by Cd Content) 氫氧化鎘(以鎘含量計算)	ppm		ND	--



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Chromium VI (Cr(VI)) Compounds 六價鉻化合物				
Chromium VI (Cr(VI)) Content 六價鉻含量	ppm	With reference to IEC 62321-7-2: 2017, organic solvent was used to dissolve or swell sample matrix, followed by alkaline digestion and determined by UV-Vis Spectrophotometer. 參考 IEC 62321-7-2:2017, 以有機溶劑溶解或使樣品基質膨脹, 再進行鹼液消化, 用紫外光-可見光分光光度計分析。	ND	8
Potassium hydroxyoctaoxidizincatedichromate (Calculated by Cr(VI) Content) 氫氧化鉻酸鋅鉀(以六價鉻含量計算)	ppm		ND	--
Pentazinc chromate octahydroxide (Calculated by Cr(VI) Content) C.I.顏料黃 36(以六價鉻含量計算)	ppm		ND	--
Strontium chromate (Calculated by Cr(VI) Content) 鉻酸鋇(以六價鉻含量計算)	ppm		ND	--
Polybrominated Biphenyls (PBBs) 多溴聯苯				
Monobrominated Biphenyls (MonoBB) 單溴聯苯	ppm	With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD. confirmation when necessary. 參考 IEC 62321-6: 2015, 以溶劑萃取並用氣相層析質譜儀分析, 必要時會以高效液相層析儀光二極體陣列偵測儀進行確認。	ND	5
Dibrominated Biphenyls (DiBB) 二溴聯苯	ppm		ND	5
Tribrominated Biphenyls (TriBB) 三溴聯苯	ppm		ND	5
Tetrabrominated Biphenyls (TetraBB) 四溴聯苯	ppm		ND	5
Pentabrominated Biphenyls (PentaBB) 五溴聯苯	ppm		ND	5
Hexabrominated Biphenyls (HexaBB) 六溴聯苯	ppm		ND	5
Heptabrominated Biphenyls (HeptaBB) 七溴聯苯	ppm		ND	5
Octabrominated Biphenyls (OctaBB) 八溴聯苯	ppm		ND	5
Nonabrominated Biphenyls (NonaBB) 九溴聯苯	ppm		ND	5
Decabrominated Biphenyl (DecaBB) 十溴聯苯	ppm		ND	5



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Polybrominated Diphenyl Ethers (PBDEs) 多溴聯苯醚				
Monobrominated Diphenyl Ethers (MonoBDE) 單溴聯苯醚	ppm	With reference to IEC 62321-6: 2015, by solvent extraction and determined by GC-MS and further HPLC-DAD. confirmation when necessary. 參考 IEC 62321-6: 2015, 以溶劑萃取並用氣相層析質譜儀分析, 必要時會以高效液相層析儀光二極體陣列偵測儀進行確認。	ND	5
Dibrominated Diphenyl Ethers (DiBDE) 二溴聯苯醚	ppm		ND	5
Tribrominated Diphenyl Ethers (TriBDE) 三溴聯苯醚	ppm		ND	5
Tetrabrominated Diphenyl Ethers (TetraBDE) 四溴聯苯醚	ppm		ND	5
Pentabrominated Diphenyl Ethers (PentaBDE) 五溴聯苯醚	ppm		ND	5
Hexabrominated Diphenyl Ethers (HexaBDE) 六溴聯苯醚	ppm		ND	5
Heptabrominated Diphenyl Ethers (HeptaBDE) 七溴聯苯醚	ppm		ND	5
Octabrominated Diphenyl Ethers (OctaBDE) 八溴聯苯醚	ppm		ND	5
Nonabrominated Diphenyl Ethers (NonaBDE) 九溴聯苯醚	ppm		ND	5
Decabrominated Diphenyl Ether (DecaBDE) 十溴聯苯醚	ppm		ND	5
Specific Benzotriazole 特定苯并三氮唑				
2-Benzotriazol-2-yl-4,6-di- <i>tert</i> -butylphenol (UV-320) 2-(2'- <i>tert</i> -butyl-3',5'-di- <i>tert</i> -butylphenyl)-benzotriazole (3846-71-7)	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-MS. 參考 USEPA 3540C, 以溶劑萃取並用氣相層析質譜儀分析。	ND	10
2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) 2-(2'- <i>tert</i> -pentyl-3',5'-di- <i>tert</i> -pentylphenyl)-benzotriazole (25973-55-1)	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取, 並用氣相層析質譜儀分析。	ND	100
2,4-di- <i>tert</i> -butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) 2-(2'- <i>tert</i> -butyl-3',5'-di- <i>tert</i> -butylphenyl)-5-chlorobenzotriazole (3864-99-1)	ppm		ND	100
2-(2H-benzotriazol-2-yl)-4-(<i>tert</i> -butyl)-6-(<i>sec</i> -butyl)phenol (UV-350) 2-(2'- <i>tert</i> -butyl-3'- <i>tert</i> -butyl-5'- <i>tert</i> -butylphenyl)-benzotriazole (36437-37-3)	ppm		ND	100



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Organotin Compounds 有機錫化合物				
Tributyltin (TBT) included TBTO 三丁基錫化合物(包含 TBTO)	ppm	With reference to ISO 17353:2004, by solvent extraction and determined by GC-MS. 參考 ISO 17353:2004，以溶劑萃取並用氣相層析質譜儀分析。	ND	0.03
Triphenyltin (TPHT) 三苯基錫化合物	ppm		ND	0.03
Dibutyltin (DBT) 二丁基錫化合物	ppm		ND	0.03
Diocetyl tin (DOT) 二辛基錫化合物	ppm		ND	0.03
Azo Dyes Compounds (Specific Amine) 偶氮化合物				
4-Aminodiphenyl 4-胺基聯苯 (92-67-1)	ppm	With reference to EN ISO 14362-1:2017 and determined by GC-MS. (Method T) 參考 EN ISO 14362-1:2017，以氣相層析質譜儀分析。(方法 T)	ND	5
Benzidine 聯苯胺 (92-87-5)	ppm		ND	5
4-Chloro- <i>o</i> -toluidine 4-氯鄰甲苯胺 (95-69-2)	ppm		ND	5
2-Naphthylamine 2-萘胺 (91-59-8)	ppm		ND	5
<i>o</i> -Aminoazotoluene 鄰胺基二甲基偶氮苯 (97-56-3)	ppm		ND	5
2-Amino-4-nitrotoluene 2-胺-4-硝基甲苯 (99-55-8)	ppm		ND	5
<i>p</i> -Chloroaniline 4-氯苯胺 (106-47-8)	ppm		ND	5
2,4-Diaminoanisole 2,4'-二胺茴香醌 (615-05-4)	ppm		ND	5
4,4'-Diaminodiphenylmethane 4,4'-二胺基二苯甲烷 (101-77-9)	ppm		ND	5
3,3'-Dichlorobenzidine 3,3'-二氯聯苯胺 (91-94-1)	ppm		ND	5
3,3'-Dimethoxybenzidine 3,3'-二甲氧基聯苯胺(119-90-4)	ppm		ND	5
3,3'-Dimethylbenzidine 3,3'-二甲基聯苯胺 (119-93-7)	ppm		ND	5
3,3'-Dimethyl-4,4'-diaminodiphenylmethane 3,3'-二甲基-4,4'-二胺基二苯甲烷) (838-88-0)	ppm		ND	5
<i>p</i> -Cresidine 2-甲氧基-5 甲基苯胺 (120-71-8)	ppm		ND	5
4,4'-Methylene-bis-(2-chloroaniline) 4,4'-亞甲基-雙-(2-氯苯胺) (101-14-4)	ppm		ND	5
4,4'-Oxydianiline 4,4'-二胺基聯苯醌 (101-80-4)	ppm		ND	5
4,4'-Thiodianiline 4,4'-硫苯胺 (139-65-1)	ppm		ND	5
<i>o</i> -Toluidine 鄰甲苯胺 (95-53-4)	ppm		ND	5
2,4-Toluyldiamine 2,4-二胺基甲苯 (95-80-7)	ppm		ND	5
2,4,5-Trimethylaniline 2,4,5-三甲苯胺 (131-17-7)	ppm		ND	5



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Azo Dyes Compounds (Specific Amine) 偶氮化合物				
<i>o</i> -Anisidine 鄰甲氧基苯胺 (90-04-0)	ppm	With reference to EN ISO 14362-1:2017 and determined by GC-MS. (Method T) 參考 EN ISO 14362-1:2017，以氣相層析質譜儀分析。(方法 T)	ND	5
4-Aminoazobenzene 4-胺基偶氮苯 (60-09-3)	ppm		ND	5
2,4-Xylidine 2,4-二甲苯胺 (95-68-1)	ppm		ND	5
2,6-Xylidine 2,6-二甲苯胺 (87-62-7)	ppm		ND	5
Phthalates 鄰苯二甲酸酯				
Bis(2-ethylhexyl) phthalate (DEHP) 鄰苯二甲酸二(2-乙基己基)酯	ppm	With reference to IEC 62321-8:2017, by solvent extraction and determined by GC-MS. 參考 IEC 62321-8:2017，以溶劑萃取並用氣相層析質譜儀分析。	ND	50
Dibutyl phthalate (DBP) 鄰苯二甲酸二丁酯	ppm		ND	50
Benzyl butyl phthalate (BBP) 鄰苯二甲酸苯基丁酯	ppm		ND	50
Diisobutyl phthalate (DIBP) 鄰苯二甲酸二異丁酯	ppm		ND	50
Diisononyl phthalate (DINP) 鄰苯二甲酸二異壬酯	ppm		ND	50
Di-isodecyl phthalate (DIDP) 鄰苯二甲酸二異癸酯	ppm		ND	50
Di-n-octyl phthalate (DNOP) 鄰苯二甲酸二辛酯	ppm		ND	50
Di-n-hexyl phthalate (DnHP) 鄰苯二甲酸二正己酯	ppm		ND	50
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) 鄰苯二甲酸二(C6-8 支鏈與直鏈) 烷基酯，富 C7	ppm		ND	100
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) 鄰苯二甲酸二(C7-11 支鏈與直鏈) 烷基酯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Bis(2-methoxyethyl) phthalate (DMEP) 鄰苯二甲酸(2-乙基甲醚)酯	ppm		ND	100
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear 支鏈與直鏈的鄰苯二甲酸二戊酯	ppm		ND	100
Diisopentylphthalate (DIPP) 鄰苯二甲酸二異戊酯	ppm		ND	100



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	
			Transparent liquid	MDL
Phthalates 鄰苯二甲酸酯				
N-pentyl-isopentylphthalate n-Pentyl-isopentyl phthalate; 1,2-Benzenedicarboxylic acid; 3-methylbutylpentyl ester Hexahydromethylphthalic anhydride 鄰苯二甲酸正戊基異戊基酯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Dipentyl phthalate (DPP) 鄰苯二甲酸二戊酯	ppm		ND	100
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear 支鏈與直鏈的鄰苯二甲酸二己酯	ppm		ND	100
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters 鄰苯二甲酸二(C6-C10)烷基酯	ppm		ND	100
Dicyclohexyl phthalate (DCHP) 鄰苯二甲酸二環己酯	ppm		ND	100
Diisohexyl phthalate 二異己基鄰苯二甲酸酯	ppm		ND	100
Polycyclic Aromatic Hydrocarbons (PAHs) 多環芳香族化合物				
Chrysene 屈	ppm	With reference to AfPS GS 2019:01 PAK, by solvent extraction and determined by Gas Chromatography-Mass Spectrometer (GC-MS). 參考 AfPS GS 2019:01 PAK，以溶劑萃取並以氣相層析質譜儀分析。	ND	0.2
Benzo[a]Anthracene 苯并[a]蒽	ppm		ND	0.2
Benzo[b] Fluoranthene 苯并[b]芘	ppm		ND	0.2
Benzo[k] Fluoranthene 苯并[k]芘	ppm		ND	0.2
Benzo[j] Fluoranthene 苯并[j]芘	ppm		ND	0.2
Benzo[a]Pyrene 苯并[a]芘	ppm		ND	0.2
Benzo[e]Pyrene 苯并[e]芘	ppm		ND	0.2
Dibenzo[a,h] Anthracene 二苯并[a,h]蒽	ppm		ND	0.2
Benzo[g,h,i]perylene 苯并[g,h,i]芘	ppm		ND	0.2
Fluoranthene 芘	ppm		ND	0.2
Phenanthrene 菲	ppm		ND	0.2
Pyrene 芘	ppm		ND	0.2



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Ozone Depleting Substances (ODS) 臭氧危害物質				
Chlorofluorocarbon (CFCs) (Class I, Group I) 氟氯碳化物	ppm	With reference to USEPA 5021A / 8260C and determined by GC-MS linked with Headspace. 參考 USEPA 5021A / 8260C，以氣相層析質譜儀連接頂空進樣器分析。	ND	1
Chlorofluorocarbon (CFCs) (Class I, Group III) 氟氯碳化物	ppm		ND	1
Halon (Class I, Group II) 海龍	ppm		ND	1
Carbon Tetrachloride (CCl ₄) (Class I, Group IV) 四氯化碳	ppm		ND	1
1,1,1-Trichloroethane (Class I, Group V) 1,1,1-三氯乙烷	ppm		ND	1
Bromomethane (Class I, Group VI) 溴甲烷	ppm		ND	1
Hydrobromofluorocarbon (HBFCs) (Class I, Group VII) 氟溴烴	ppm		ND	1
Chlorobromomethane (Class I, Group VIII) 海龍-1011	ppm		ND	1
Hydrochlorofluorocarbon (HCFCs) (Class II) 氫氟氯烴	ppm		ND	1
Ozone Depleting Substance Substitutes 臭氧危害物質替代物				
Perfluorocarbon (PFC) 全氟化碳	ppm	With reference to USEPA 5021A / 8260C and determined by GC-MS linked with Headspace. 參考 USEPA 5021A / 8260C，以氣相層析質譜儀連接頂空進樣器分析。	ND	1
Hydrofluorocarbon (HFC) 氫氟烴	ppm		ND	1
Sulfur Hexafluoride (SF ₆) 六氟化硫	ppm		ND	1
Halogen Content 鹵素含量				
Fluorine (F) 氟	ppm	With reference to EN 14582:2016 by combustion bomb with oxygen and determined by Ion Chromatography. 參考 EN 14582:2016，以氧彈燃燒集氣法並用離子層析儀分析。	ND	50
Chlorine (Cl) 氯	ppm		ND	50
Bromine (Br) 溴	ppm		ND	50
Iodine (I) 碘	ppm		ND	50



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Perfluorooctane sulfonates (PFOS), its salts and its derivatives 全氟辛烷磺及其鹽類和衍生物				
Perfluorooctane Sulfonates (PFOS) 全氟辛烷磺	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.02
Perfluorooctanesulfonamide (PFOSA) 全氟辛基磺醯胺	ppm		ND	0.02
N-Methyl-Perfluorooctanesulfonamide (N-Me-FOSA) N-甲基全氟正辛基磺醯胺	ppm		ND	0.02
N-ethylperfluoro-1-octanesulfonamide (Et-FOSA) N-乙基全氟正辛基磺醯胺	ppm		ND	0.02
N-Methyl-Perfluorooctanesulfonamidoethanol (N-Me-FOSE alcohol) N-甲基全氟辛基磺醯胺乙醇	ppm		ND	0.02
N-Ethyl-Perfluorooctanesulfonamidoethanol (N-Et-FOSE alcohol) N-乙基全氟辛基磺醯胺乙醇	ppm		ND	0.02
Perfluorooctanesulfonic acid, potassium salt (PFOS-K) (Calculated by PFOS Content) 全氟辛基磺酸鉀 (以全氟辛烷磺酸含量計算)	ppm		ND	--
Perfluorooctanesulfonic acid, lithium salt (PFOS-Li) (Calculated by PFOS Content) 全氟辛基磺酸鉀 (以全氟辛烷磺酸含量計算)	ppm		ND	--
Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH ₄) (Calculated by PFOS Content) 全氟辛基磺酸鉀 (以全氟辛烷磺酸含量計算)	ppm		ND	--
Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH) ₂) (Calculated by PFOS Content) 全氟辛基磺酸鉀 (以全氟辛烷磺酸含量計算)	ppm		ND	--



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Perfluorooctane sulfonates (PFOS), its salts and its derivatives 全氟辛烷磺及其鹽類和衍生物				
Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C ₂ H ₅) ₄) (Calculated by PFOS Content) 全氟辛基磺酸鉀 (以全氟辛烷磺酸含量計算)	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	--
N-decyl-N,N-dimethyldecane-1-aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluorooctane-1-sulfonate (PFOS-DDA) (Calculated by PFOS Content) 全氟辛基磺酸鉀 (以全氟辛烷磺酸含量計算)	ppm		ND	--
Perfluorooctane Sulfonyl fluoride (POSF) (Calculated by PFOS Content) 全氟辛基磺酸鉀 (以全氟辛烷磺酸含量計算)	ppm		ND	--
Perfluorooctanoic acid (PFOA), its salts and PFOA-Related Compounds 全氟辛酸(PFOA)及其鹽類和相關化合物				
Perfluorooctanoic acid (PFOA) 全氟辛酸	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.02
Sodium perfluorooctanoate (PFOA-Na) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm		ND	--
Potassium perfluorooctanoate (PFOA-K) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm		ND	--
Silver perfluorooctanoate (PFOA-Ag) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm		ND	--
Perfluorooctanoyl fluoride (PFOA-F) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm		ND	--



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	
			Transparent liquid	MDL
Perfluorooctanoic acid (PFOA), its salts and PFOA-Related Compounds 全氟辛酸(PFOA)及其鹽類和相關化合物				
Ammonium pentadecafluorooctanoate (APFO) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	--
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS) 1H,1H,2H,2H-全氟癸磺酸	ppm		ND	0.02
Methyl perfluorooctanoate (Me-PFOA) 全氟辛酸甲酯	ppm		ND	0.1
Ethyl perfluorooctanoate (Et-PFOA) 全氟辛酸乙酯	ppm		ND	0.1
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH) 1H,1H,2H,2H-全氟-1-癸醇	ppm		ND	0.1
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA) 1H,1H,2H,2H-全氟癸基丙烯酸酯	ppm		ND	0.1
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA) 1H,1H,2H,2H-全氟癸基甲基丙烯酸鹽	ppm		ND	0.1
Long-chain (C9-C20) perfluorocarboxylic acids (PFCAs), its salts and related substances 長鏈(C9-C20)全氟羧酸(PFCA)及其鹽類和相關物質				
Perfluorononane Acid (PFNA) 全氟壬酸	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.02
Perfluorodecane Acid (PFDA) 全氟癸酸	ppm		ND	0.02
Perfluoroundecanoic Acid (PFUnA) 全氟十一烷酸	ppm		ND	0.02
Perfluorododecanoic Acid (PFDoA) 全氟十二烷酸	ppm		ND	0.02
Perfluorotridecanoic Acid (PFTrA) 全氟十三烷酸	ppm		ND	0.02
Perfluorotetradecanoic Acid (PFTeA) 全氟十四烷酸	ppm		ND	0.02



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Long-chain (C9-C20) perfluorocarboxylic acids (PFCAs), its salts and related substances 長鏈(C9-C20)全氟羧酸(PFCA)及其鹽類和相關物質				
Fluorine (F) 氟	ppm	With reference to EN 14582:2016 by combustion bomb with oxygen and determined by Ion Chromatography. 參考 EN 14582:2016，以氧彈燃燒集氣法並用離子層析儀分析。	ND	50
Penta-decanoic acid, nonacosafuoro-(C15 PFCA) (PFPeDA) (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
Hexa-decanoic acid, hentriacontafuoro-(C16 PFCA) (PFHxDA) (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
Perfluoro-hepta-decanoic acid (C17 PFCA) (PFHpDA) (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
Octa-decanoic acid, pentatriacontafuoro- (C18 PFCA) (PFODA) (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
Perfluoro-nona-decanoic acid (C19 PFCA) (PFNDA) (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
Perfluoro-eicosanoic acid (C20 PFCA) (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
Perfluorocarboxylic acids (PFCAs) C9-C14, its salts and C9-C14-related substances C9-C14 全氟羧酸及其鹽類和相關化合物				
Perfluorononane Acid (PFNA) 全氟壬酸	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.02
Perfluorodecane Acid (PFDA) 全氟癸酸	ppm		ND	0.02
Perfluoroundecanoic Acid (PFUnA) 全氟十一烷酸	ppm		ND	0.02
Perfluorododecanoic Acid (PFDoA) 全氟十二烷酸	ppm		ND	0.02
Perfluorotridecanoic Acid (PFTrA) 全氟十三烷酸	ppm		ND	0.02
Perfluorotetradecanoic Acid (PFTeA) 全氟十四烷酸	ppm		ND	0.02



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Perfluorocarboxylic acids (PFCAs) C9-C14, its salts and C9-C14-related substances C9-C14 全氟羧酸及其鹽類和相關化合物				
1H,1H,2H,2H-Perfluorododecanol (10:2 FTOH) 1H,1H,2H,2H-全氟-1-十二醇	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.1
1H,1H,2H,2H-Perfluorotetradecanol (12:2 FTOH) 1,1,2,2-四氫全氟十四醇	ppm		ND	0.1
1H,1H,2H,2H-Perfluorododecyl acrylate (10:2 FTA) 1H,1H,2H,2H-全氟十二烷基丙烯酸酯	ppm		ND	0.1
1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA) 1H,1H,2H,2H-全氟十二烷基甲基丙烯酸酯	ppm		ND	0.1
1H,1H,2H,2H-Tetrahydroperfluorododecyl iodide (10:2 FTI) 1,1,2,2-四氫全氟碘代十二烷	ppm		ND	0.1
1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI) 1-碘-1H,1H,2H-,2H-全氟十四烷	ppm		ND	0.1
1H,1H,2H,2H-Perfluorododecanesulphonicacid (10:2 FTS) 1H,1H,2H,2H-全氟十二烷磺酸	ppm		ND	0.02
Long-chain perfluoroalkyl carboxylate 長鏈全氟烷基羧酸鹽(LCPFAC)和全氟烷基磺酸鹽化學品				
Perfluoro-1-iodooctane (PFOI) 全氟辛基碘烷	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.1
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH) 1H,1H,2H,2H-全氟-1-癸醇	ppm		ND	0.1
1H,1H,2H,2H-Perfluorododecanol (10:2 FTOH) 1H,1H,2H,2H-全氟-1-十二醇	ppm		ND	0.1
1H,1H,2H,2H-Perfluorodecyl iodide (8:2 FTI) 1H,1H,2H,2H-全氟癸基碘	ppm		ND	0.1
1H,1H,2H,2H-Tetrahydroperfluorododecyl iodide (10:2 FTI) 1,1,2,2-四氫全氟碘代十二烷	ppm		ND	0.1



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Long-chain perfluoroalkyl carboxylate 長鏈全氟烷基羧酸鹽(LCPFAC)和全氟烷基磺酸鹽化學品				
1H,1H,2H,2H-Perfluorododecyl acrylate (10:2 FTA) 1H,1H,2H,2H-全氟十二烷基丙烯酸酯	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.1
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA) 1H,1H,2H,2H-全氟癸基丙烯酸酯	ppm		ND	0.1
1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI) 1-碘-1H,1H,2H,2H-全氟十四烷	ppm		ND	0.1
1H,1H,2H,2H-Perfluorotetradecanol (12:2 FTOH) 1,1,2,2-四氫全氟十四醇	ppm		ND	0.1
Fluorine (F) 氟	ppm	With reference to EN 14582:2016 by combustion bomb with oxygen and determined by Ion Chromatography. 參考 EN 14582:2016，以氧彈燃燒集氣法並用離子層析儀分析。	ND	50
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16-Nonacosafluorohexadecan-1-ol (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-Nonacosafluoro-16-iodohexadecane (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
Silicic acid (H ₄ SiO ₄), sodium salt (1:2), reaction products with chlorotrimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-1-decanol (Calculated by Fluorine content) (以氟含量計算)	ppm		ND	--
1,1,2,2-Tetrahydroperfluoroalkyl (C8-C14) alcohol (as Fluorine) (以氟計)	ppm		ND	50
Thiols, C8-20, gamma-omega-perfluoro, telomers with acrylamide (as Fluorine) (以氟計)	ppm		ND	50



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Long-chain perfluoroalkyl carboxylate 長鏈全氟烷基羧酸鹽(LCPFAC)和全氟烷基磺酸鹽化學品				
Thiols, C4-20, gamma-omega-perfluoro, telomers with acrylamide and acrylic acid, sodium salts) (as Fluorine) (以氟計)	ppm	With reference to EN 14582:2016 by combustion bomb with oxygen and determined by Ion Chromatography. 參考 EN 14582:2016，以氧彈燃燒集氣法並用離子層析儀分析。	ND	50
1-Propanaminium, 3-amino-N-(carboxymethyl)-N,N-dimethyl-, N-(2-((gamma-omega-perfluoro-C4-20-alkyl)thio)acetyl) derivs., inner salts (as Fluorine) (以氟計)	ppm		ND	50
Polyfluoroalkyl betaine (generic) (as Fluorine) (以氟計)	ppm		ND	50
Modified fluoroalkyl urethane (generic) (as Fluorine) (以氟計)	ppm		ND	50
Perfluorinated polyamine (generic) (as Fluorine) (以氟計)	ppm		ND	50
Sulfur (S) 硫	ppm	With reference to EN 14582:2016 by combustion bomb with oxygen and determined by Ion Chromatography. 參考 EN 14582:2016，以氧彈燃燒集氣法並用離子層析儀分析。	ND	50
Sodium;2-methylpropane-1-sulfonate (as Sulfur) (以硫計)	ppm		ND	50
Perfluorooctanoic acid (PFOA) 全氟辛酸	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.02
Sodium perfluorooctanoate (PFOA-Na) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm		ND	--
Potassium perfluorooctanoate (PFOA-K) (Calculated by PFOA content) 全氟辛酸鉀 (以全氟辛酸含量計算)	ppm		ND	--



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	
			Transparent liquid	MDL
Long-chain perfluoroalkyl carboxylate 長鏈全氟烷基羧酸鹽(LCPFAC)和全氟烷基磺酸鹽化學品				
Silver perfluorooctanoate (PFOA-Ag) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	--
Perfluorooctanoyl fluoride (PFOA-F) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm		ND	--
Ammonium pentadecafluorooctanoate (APFO) (Calculated by PFOA content) 全氟辛酸鈉 (以全氟辛酸含量計算)	ppm		ND	--
Asbestos 石棉				
Anthophyllite 斜方角閃石綿	NA	With reference to EPA 600/R-93/116: 1993, analysis was performed by Stereo Microscope (SM), Dispersion Staining Polarized Light Microscope (DS-PLM) and X-ray Diffraction Spectrometer (XRD). 參考 EPA 600/R-93/116: 1993 / 立體顯微鏡(SM)，分散染色式偏光顯微鏡(DS-PLM)及 X 光繞射光譜分析法(XRD)。	Negative	NA
Crocidolite 青石綿	NA		Negative	NA
Amosite 棕石綿	NA		Negative	NA
Tremolite 透閃石綿	NA		Negative	NA
Chrysotile 白石綿	NA		Negative	NA
Actinolite 陽起石綿	NA		Negative	NA
Others 其他				
Perfluorohexane-1-sulphonic acid (PFHxS), its salts and PFHxS-related substances 全氟己基磺酸及其鹽類和相關物質	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.02
Perfluorohexanoic acid (PFHxA), its salts and related substances 全氟己酸及其鹽類和相關物質	ppm	With reference to CEN/TS 15968:2010, by solvent extraction and determined by LC-MS-MS. 參考 CEN/TS 15968:2010，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	0.02



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
Polychlorinated Biphenyls (PCBs) 多氯聯苯	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-ECNI-MS. 參考 USEPA 3540C，以溶劑萃取並用氣相層析化學游離法質譜儀分析。	ND	1
Polychlorinated Naphthalenes (PCNs) 多氯化萘	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-ECNI-MS. 參考 USEPA 3540C，以溶劑萃取並用氣相層析化學游離法質譜儀分析。	ND	10
Polychlorinated Terphenyls (PCTs) 多氯三聯苯	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-ECNI-MS. 參考 USEPA 3540C，以溶劑萃取並用氣相層析化學游離法質譜儀分析。	ND	10
Short Chain Chlorinated Paraffins (C10~C13) 短鏈氯化石蠟	ppm	With reference to ISO 18219, by solvent extraction and determined by GC-ECNI-MS. 參考 ISO 18219，以溶劑萃取並用氣相層析化學游離法質譜儀分析。	ND	5
Tris(2-Chloroethyl) Phosphate (TCEP) 磷酸三(2-氯乙基)酯	ppm	With reference to USEPA 3540C, by solvent extraction and determined by LC-MS-MS. 參考 USEPA 3540C，以溶劑萃取並用液相層析串聯式質譜儀分析。	ND	5
Tris(2-chloro-1-methylethyl) phosphate (TCPP) 磷酸三(2-氯丙基)酯	ppm		ND	5
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP) 磷酸三(2,3-二氯丙基)酯	ppm		ND	5



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
Hexabromocyclododecane (HBCDD) 六溴環十二烷	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-MS. 參考 USEPA 3540C，以溶劑萃取並用氣相層析質譜儀分析。	ND	10
Decabromodiphenylethane (DBDPE) 十溴二苯乙烷	ppm	With reference to USEPA 3540C, by solvent extraction and determined by GC-MS. 參考 USEPA 3540C，以溶劑萃取並用氣相層析質譜儀分析。	ND	5
Formaldehyde 甲醛	ppm	With reference to ISO 17226-1:2021 and determined by HPLC-DAD. 參考 ISO 17226-1:2021，並用高效液相層析儀光二極體陣列偵測儀分析。	ND	5
Dimethylfumarate (DMFu) 富馬酸二甲酯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	0.05
Perchlorates 高氯酸鹽	ppm	By DI water extraction and Ion Chromatography analysis. 以去離子水萃取並用離子層析儀分析。	ND	0.006
Hexachlorobenzene (HCB) 六氯苯	ppm	With reference to USEPA 3540C/8081B, by solvent extraction and determined by GC-MS. 參考 USEPA 3540C/8081B，以溶劑萃取並用氣相層析質譜儀分析。	ND	0.05
Phenol, isopropylated phosphate (PIP)(3:1) 異丙基化磷酸三苯酯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	5
2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP) 2,4,6-三-叔丁基苯酚	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	5



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
Pentachlorothiophenol (PCTP) 五氯硫酚	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	5
Hexachlorobutadiene (HCBD) 六氯丁二烯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	5
Pentachlorophenol (PCP) 五氯酚	ppm	With reference to DIN 50009, by solvent extraction and determined by GC-MS. 參考 DIN 50009，以溶劑萃取並用氣相層析質譜儀分析。	ND	0.05
Trixylyl phosphate (TXP) 磷酸三(二甲苯)酯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) 二正辛基-双(2-乙基己基巰基乙酸酯)錫	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE) 二正辛基-双(2-乙基己基巰基乙酸酯)錫和單辛基-三(2-乙基己基巰基乙酸酯)錫的反應物	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
1,2-bis(2-methoxyethoxy)ethane (Triethylene glycol dimethyl ether) (TEGDME) 1,2-二(2-甲氧基乙氧基)乙烷 (三甘醇二甲醚)	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
1,2-Diethoxyethane (Ethylene Glycol Diethyl Ether) 1,2-二乙氧基乙烷 (乙二醇二乙醚)	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
N,N-dimethylformamide N,N-二甲基甲醯胺	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Imidazolidine-2-thione 2-咪唑烷硫酮	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
1,3-propanesultone 1,3-丙烷磺內酯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Benzo[a]Pyrene 苯並[a]芘	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Hexahydromethylphthalic anhydride 甲基六氫化鄰苯二甲酸酐	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof] 支鏈及直鏈乙氧基壬基酚-包括含有 9 個碳烷基鏈及所有含有含直鏈或支鏈之 9 個碳烷基鏈 UVCB 物質、聚合物及同系物，包括獨立同分異構物及複合物	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
C.I. Direct Red 28 C.I.直接紅 28	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
C.I. Direct Black 38 C.I.直接黑 38	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Perfluorononan-1-oic-acid and its sodium and ammonium salts 全氟壬酸及其鈉鹽和銨鹽	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Bisphenol A; BPA 雙酚 A	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts 全氟癸酸(PFDA)及其鈉鹽和銨鹽	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Aluminosilicate Refractory Ceramic Fibres 耐火陶瓷纖維(RCF)矽酸鋁	ppm	By acid digestion or aqueous extraction method and the relevant elements were determined by ICP-OES and calculated. 以酸消化或水溶液萃取測試樣品，並用感應耦合電漿原子放射光譜儀分析相關元素後換算。	ND	100
Zirconia Aluminosilicate Refractory Ceramic Fibres 耐火陶瓷纖維(RCF)氧化鋯矽酸鋁	ppm	By acid digestion or aqueous extraction method and the relevant elements were determined by ICP-OES and calculated. 以酸消化或水溶液萃取測試樣品，並用感應耦合電漿原子放射光譜儀分析相關元素後換算。	ND	100
Silicic acid, barium salt, lead-doped 摻雜鉛的矽酸鋇	ppm	With reference to USEPA 3052, by microwave digestion and determined by ICP-OES. 參考 USEPA 3052，以微波消化法並用感應耦合電漿原子放射光譜儀分析。	ND	100



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
Perfluorohexane-1-sulphonic acid (PFHxS) and its salts 全氟己基磺酸及其鹽類	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Dodecachloropentacyclo[12.2.1.16, 9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus" TM) covering any of its individual anti- and syn-isomers or any combination thereof 十二氯五環 [12.2.1.16,9.02,13.05,10]十八碳-7,15-二烯 ("Dechlorane Plus" TM)(包含任何反式與順式同分異構物或其他組成)	ppm	Solvent extraction method was used and determined by GC-ECNI-MS. 以溶劑萃取，並用氣相層析化學游離質譜儀分析。	ND	100
Octamethylcyclotetrasiloxane (D4) 八甲基環四矽氧烷	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Decamethylcyclopentasiloxane (D5) 十甲基環五矽氧烷	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Dodecamethylcyclohexasiloxane (D6) 十二甲基環六矽氧烷	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Terphenyl hydrogenated 氫化三聯苯	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
2,2-bis(4'-hydroxyphenyl)-4-methylpentane 2,2-雙(4'-羥基苯基)-4-甲基戊烷	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP) 三(4-壬基苯基，支鍊和直鍊)亞磷酸酯(TNPP) (4-壬基酚 4-NP，支鍊和直鍊濃度 ≥ 0.1%重量比)	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
Perfluorobutane sulfonic acid (PFBS) and its salts 全氟丁烷磺酸及其鹽類	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Dibutyltin dichloride (DBTC) 二丁基二氯化錫	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Ammonium pentadecafluorootanoate (APFO) 全氟辛酸銨	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Diocetyl tin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety 二月桂酸二辛基錫，錫烷，二辛基-，雙(椰油醯氧基)衍生物，以及任何其他錫烷，二辛基-，雙(脂肪醯氧基)衍生物。其中 C12 為脂肪醯氧基部分的主要碳原子數	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Bis(2-(2-methoxyethoxy) ethyl) ether 雙(2-(2-甲氧基乙氧基)乙基)醚	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
Dibutylbis(pentane-2,4-dionato-O,O')tin 二丁基雙(乙醯丙酮基)錫	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
4-(1,1,3,3-tetramethylbutyl) phenol 4-(1,1,3,3-四甲基丁基)苯酚	ppm	With reference to USEPA 3550C, by solvent extraction and determined by GC-MS. 參考 USEPA 3550C，以溶劑萃取並用氣相層析質譜儀分析。	ND	100
Bis(2-methoxyethyl) ether 氘代雙(2-甲氧基乙基)醚	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100



Test Conducted 測試內容 :

Test Item 測試項目	Unit 單位	Test Method 測試方法	Result 結果	MDL
			Transparent liquid	
Others 其他				
Ethylene glycol dimethyl ether (EGDME) 二乙二醇二甲醚	ppm	By Gas Chromatography-Mass Spectrometer (GC-MS) linked with headspace analysis. 以氣相層析質譜儀連接頂空進樣器分析。	ND	100
Medium Chain Chlorinated Paraffins (C14~C17) 中鏈氯化石蠟	ppm	Solvent extraction method was used and determined by GC-ECNI-MS. 以溶劑萃取，並用氣相層析化學游離法質譜儀分析。	ND	100
6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol (DBMC) 6,6'-雙二叔丁基-2,2'-亞甲基雙對甲酚	ppm	Solvent extraction method was used and determined by GC-MS. 以溶劑萃取，並用氣相層析質譜儀分析。	ND	100
4,4'-(1-methylpropylidene) bisphenol; (bisphenol B) 雙酚 B	ppm	Solvent extraction method was used and determined by LC-MS-MS. 以溶劑萃取，並用串聯式液相層析質譜儀分析。	ND	100
Polyvinyl Chloride (PVC) and PVC blends 聚氯乙烯和聚氯乙烯混合物	NA	Beilstein's test (Flame Test) and FT-IR analysis. 火焰法及傅立葉轉換紅外線吸收光譜儀檢測。	Negative	NA



Test Conducted 測試內容 :

Test Item 測試項目	人工加 馬核種 檢驗活 度	Test Method 測試方法	Result 結果	輻射劑 量率 (微西 弗/小 時 μSv/hr)
			Transparent liquid	
Radioactive Substances 放射性物質	Bq/kg 貝克/ 公斤	以 Caberra 及 IdentiFinder2(R400)偵檢儀。	Not detected 未檢出	0.10 < 0.2 (自然 背景變 動範 圍)

Remarks: ppm = Parts per million based on wet weight of tested sample 百萬分之一，依據測試樣品溼重計算
備註 ND = Not detected 未檢測出
NA = Not applicable 不適用
MDL = Quantitation limit of test method 方法偵測極限

Responsibility of chemist 分析人員 : Beef Hsu/ Vita Fu

Date Sample Received 樣品收件日期 : Jul 05, 2022

Test Period 樣品測試期間 : Jul 05, 2022 to Jul 25, 2022

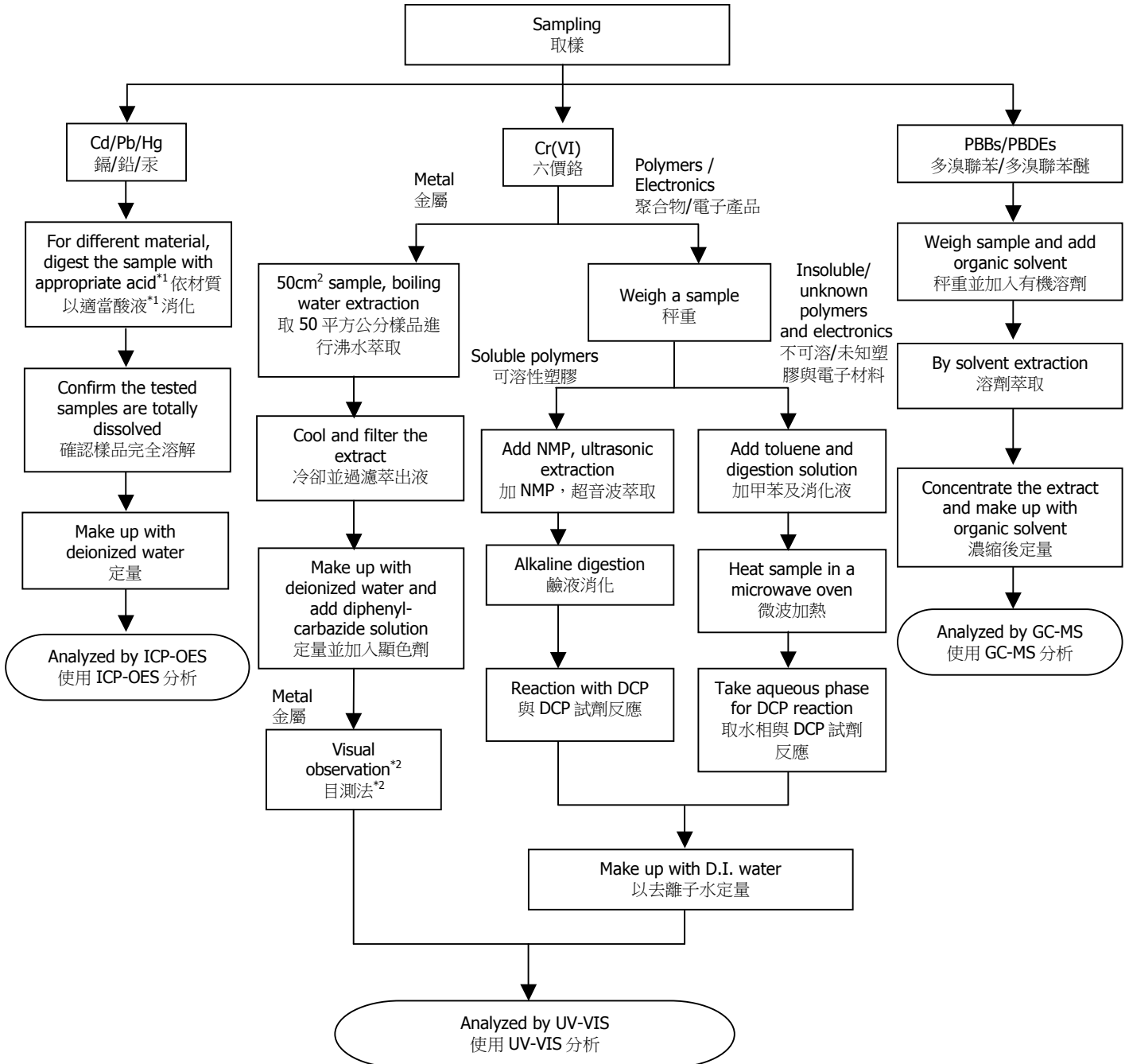


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Content RoHS 六項測試

Reference Method 參考方法: Cd/Pb: IEC 62321-5:2013; Hg: IEC 62321-4:2013+AMD1:2017;
Chromium (VI): IEC 62321-7-1:2015 (boiling water extraction);
Chromium (VI): IEC 62321-7-2:2017 (solvent and alkaline extraction);
PBBs/PBDEs: IEC 62321-6:2015



Test Conducted 測試內容 :

Remarks 備註:

*1: List of Appropriate Acid 各材質添加酸液如下表 :

Material 材質	Acid Added for Digestion 添加酸液種類
Polymers 聚合物	HNO ₃ ,HCl,HF,H ₂ O ₂ ,H ₃ BO ₃ 硝酸、鹽酸、氫氟酸、雙氧水、硼酸
Metals 金屬	HNO ₃ ,HCl,HF 硝酸、鹽酸、氫氟酸
Electronics 電子產品	HNO ₃ ,HCl,H ₂ O ₂ ,HBF ₄ 硝酸、鹽酸、雙氧水、氟硼酸

*2: If sample solution is significantly more intense than 0.13 µg/cm² equivalent comparison standard, Chromium VI would be determined as detected, the result of visual observation is positive.

當待測樣品溶液顏色明顯比 0.13 µg/cm² 深，採用目測法判定六價鉻結果為陽性。

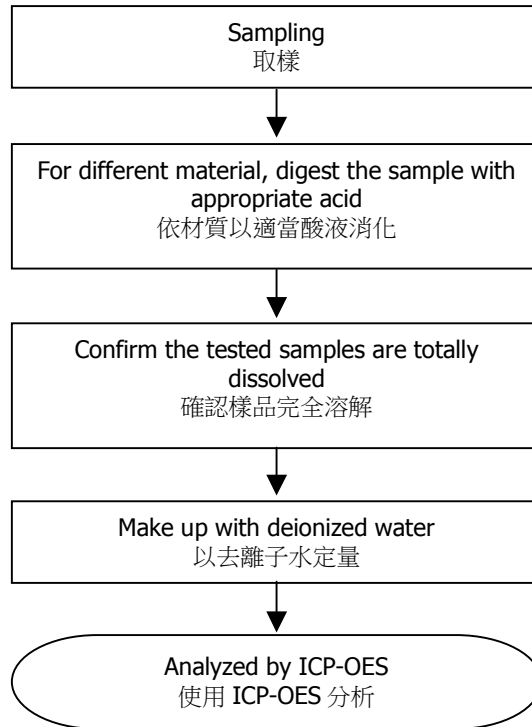


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Heavy Metal (As, Be) Content 重金屬(砷, 鉍)

Reference Method 參考方法 : USEPA 3052

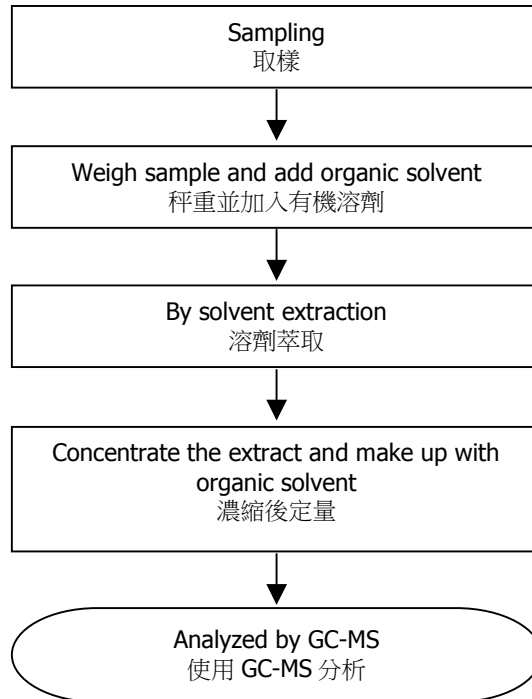


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖 :

Test for UV Absorbent / UV 吸收劑

Reference Standard 參考方法 : USEPA 3540C

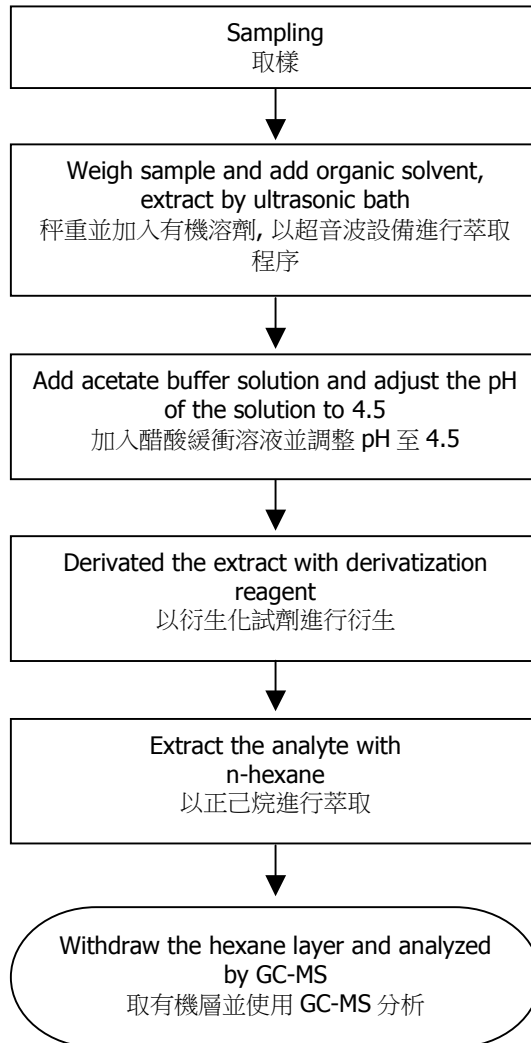


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Organic Tin Content 有機錫化合物

Reference Method 參考方法: ISO 17353:2004

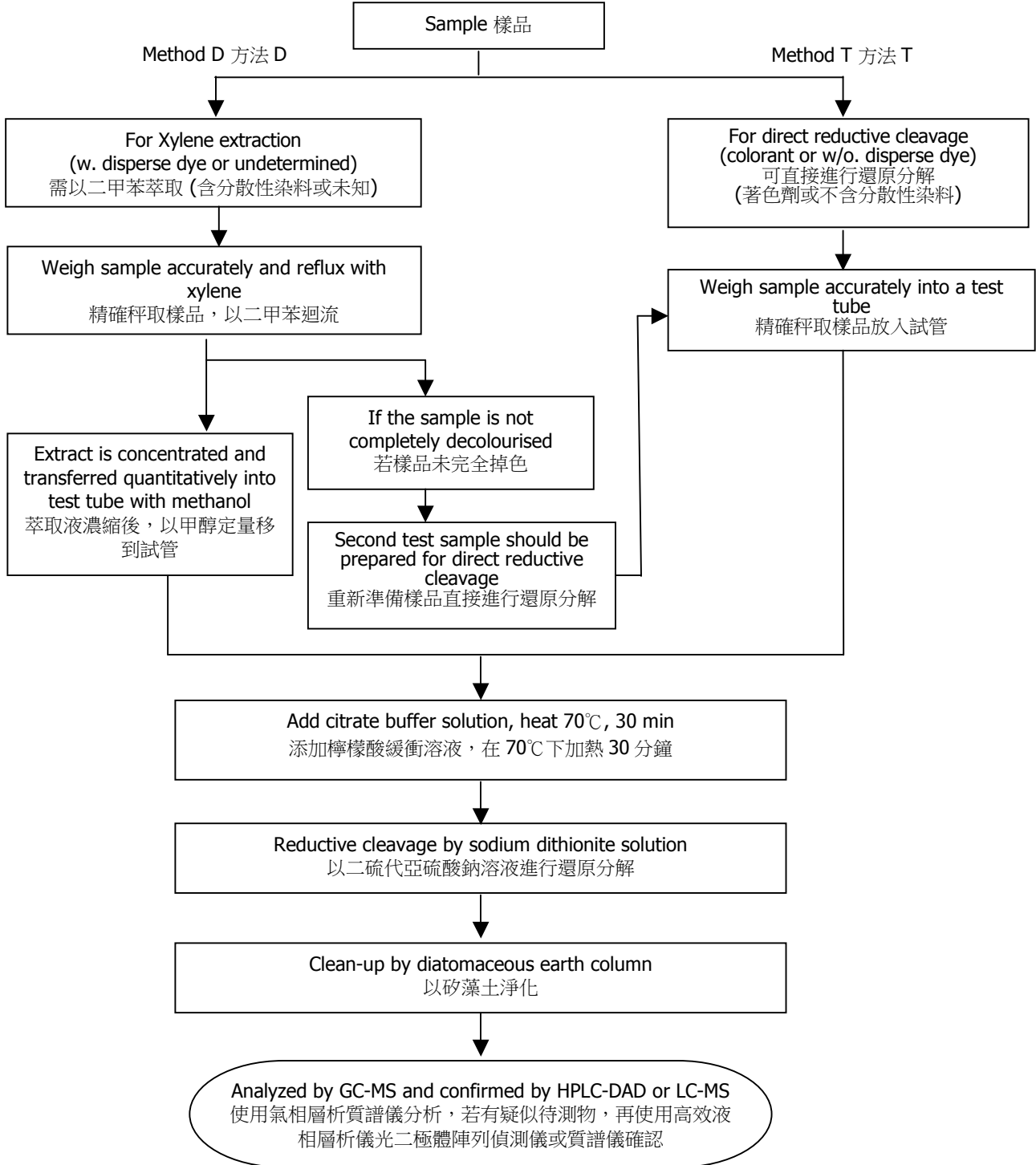


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Azo Colorant 偶氮色料測試

Reference Method 參考方法 : EN ISO 14362-1:2017

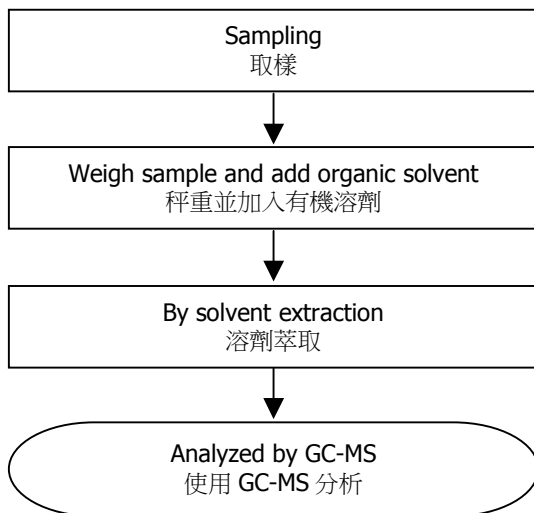


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖 :

Test for Phthalates Content 鄰苯二甲酸酯測試

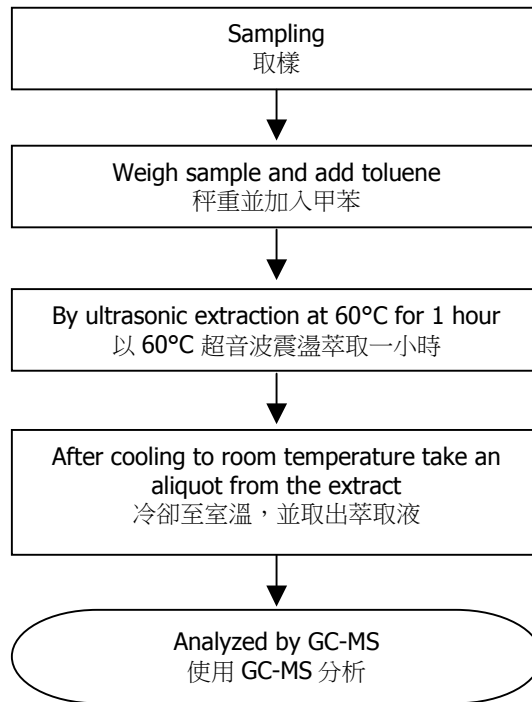
Reference Method 參考方法: IEC 62321-8:2017



Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖 :

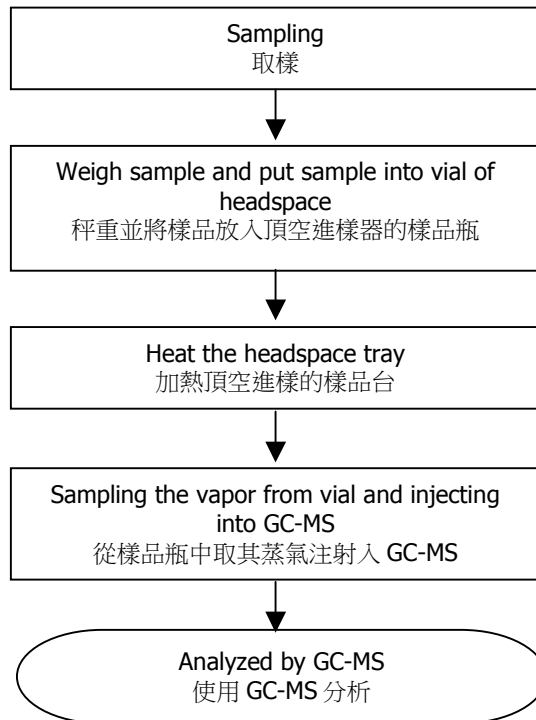
Test for Polycyclic Aromatic Hydrocarbons (PAHs) Content 多環芳香族化合物測試
Reference Method 參考方法 : AfPS GS 2019:01 PAK



Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Ozone Depleting Substances (ODS) 臭氧危害物質測試
Ozone Depleting Substance Substitutes 臭氧危害物質替代物測試
Reference Method 參考方法 : USEPA 5021A / USEPA 8260C

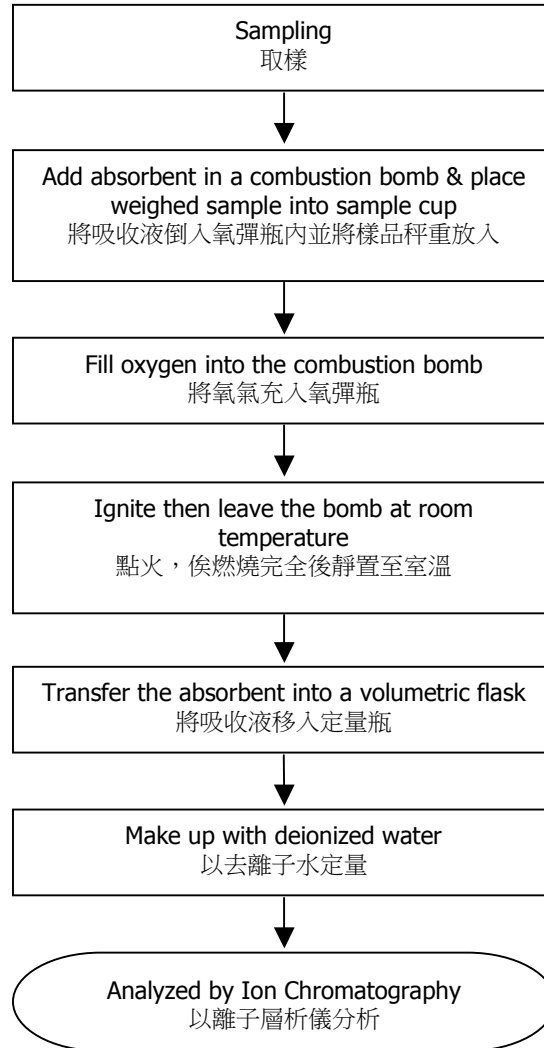


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Halogen Content 鹵素測試

Reference Standard 參考方法 : EN 14582:2016



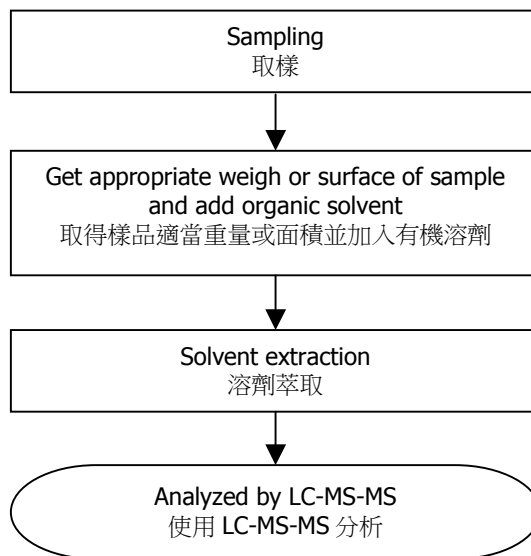
Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Perfluorooctane sulfonates (PFOS), its salts and its derivatives/ Perfluorooctanoic acid (PFOA), its salts and PFOA-Related Compounds/ Long-chain (C9-C20) perfluorocarboxylic acids (PFCAs), its salts and related substances / Perfluorocarboxylic acids (PFCAs) C9-C14, its salts and C9-C14-related substances/ Long-chain perfluoroalkyl carboxylate Content

全氟辛烷磺及其鹽類和衍生物/ 全氟辛酸(PFOA)及其鹽類和相關化合物/ 長鏈(C9-C20)全氟羧酸(PFCA)及其鹽類和相關物質/ C9-C14 全氟羧酸及其鹽類和相關化合物/ 長鏈全氟烷基羧酸鹽(LCPFAC)和全氟烷基磺酸鹽化學品測試

Reference Method 參考方法 : CEN/TS 15968:2010

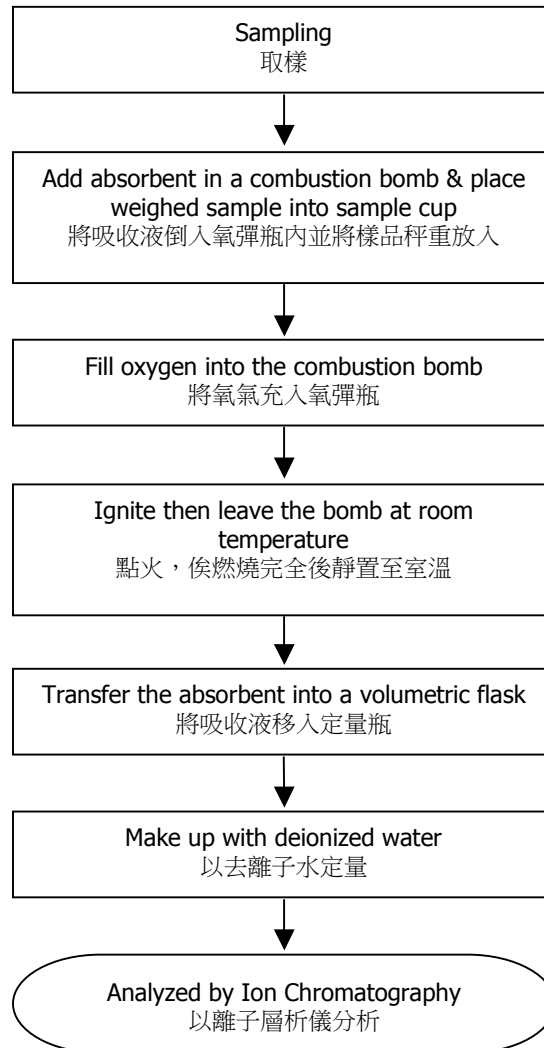


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Sulfur (S) 硫測試

Reference Standard 參考方法 : EN 14582:2016

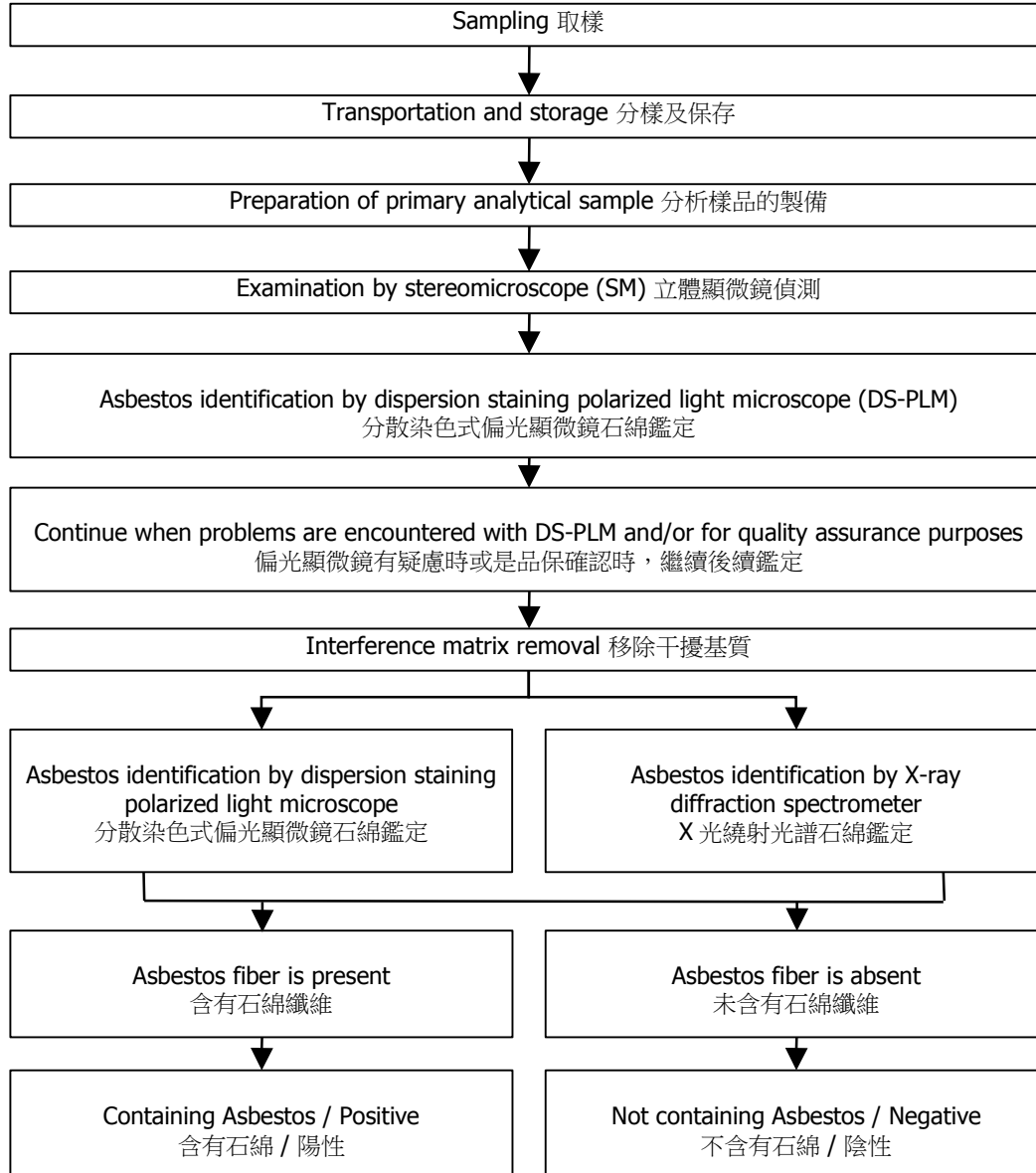


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Asbestos 石綿測試

Reference Method 參考方法 : EPA 600 R-93/116



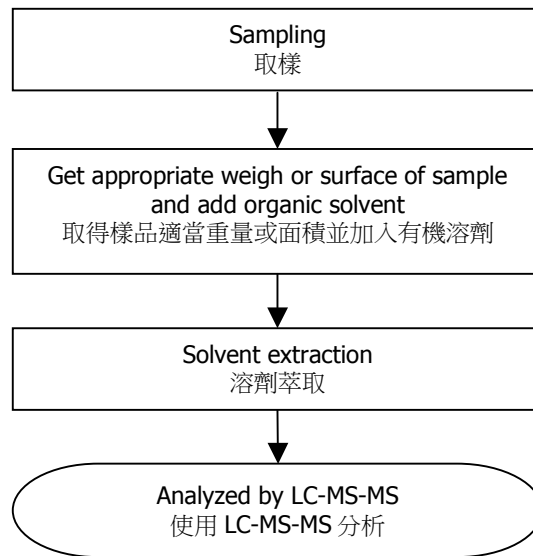
Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Perfluorohexane-1-sulphonic acid (PFHxS), its salts and PFHxS-related substances/ Perfluorohexanoic acid (PFHxA), its salts and related substances Content

全氟己基磺酸及其鹽類和相關物質/ 全氟己酸及其鹽類和相關物質測試

Reference Method 參考方法: CEN/TS 15968:2010

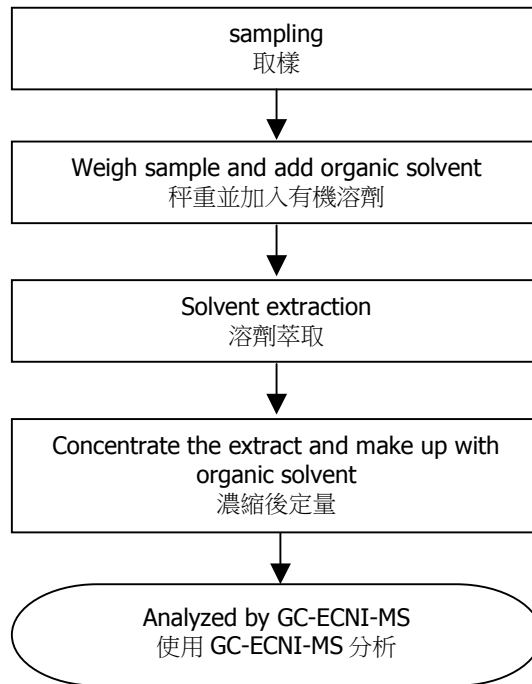


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Polychlorinated Biphenyls (PCBs) Content 多氯聯苯測試

Reference Method 參考方法 : USEPA 3540C

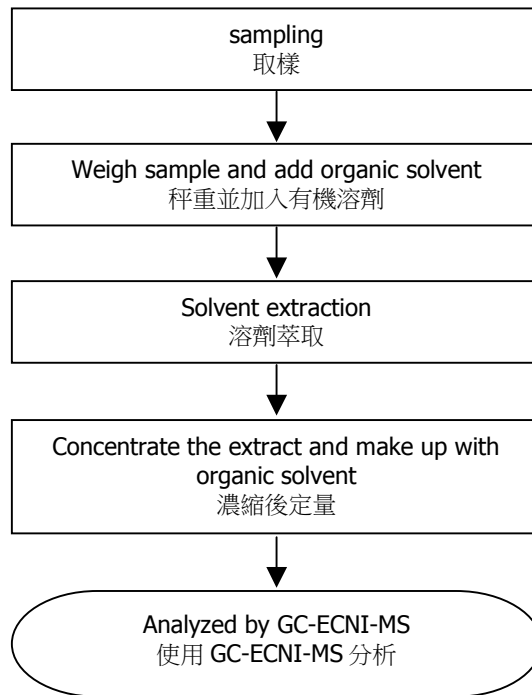


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Polychlorinated Naphthalenes (PCNs) Content 多氯化萘測試流程圖

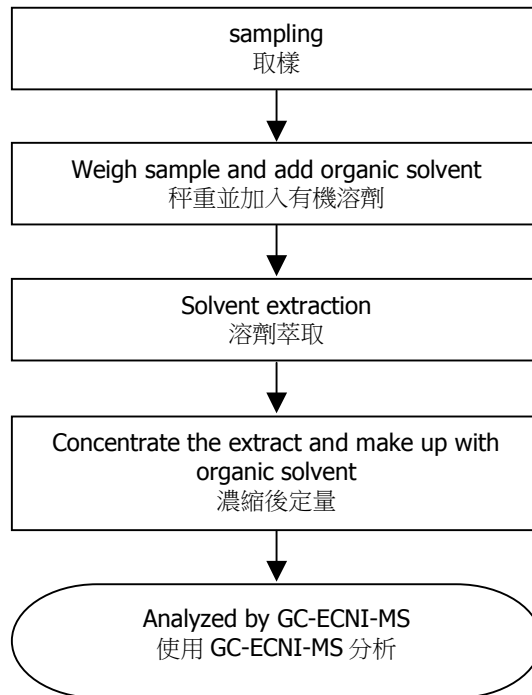
Reference Method 參考方法 : USEPA 3540C



Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖 :

Test for Polychlorinated Terphenyls (PCTs) Content 多氯三聯苯測試
Reference Method 參考方法 : USEPA 3540C

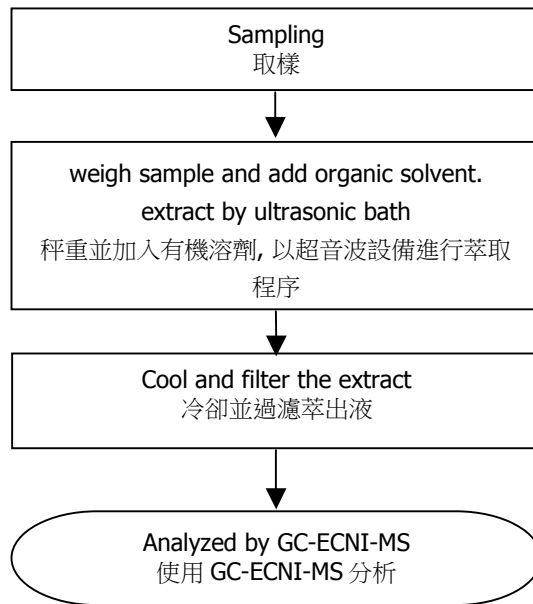


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for SCCP (C10~C13) Content 短鏈氯化石蠟測試流程圖

Reference Method 參考方法 : ISO 18219



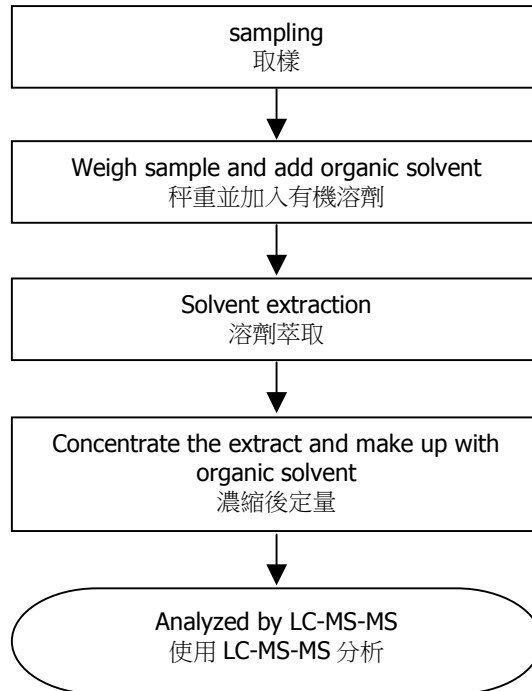
Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Tris(2-Chloroethyl) Phosphate (TCEP)/ Tris(2-chloro-1-methylethyl) phosphate (TCPP)/ Tris(1,3-dichloro-2-propyl) Phosphate (TDCPP) Content

磷酸三(2-氯乙基)酯/ 磷酸三(2-氯丙基)酯/ 磷酸三(2,3-二氯丙基)酯測試

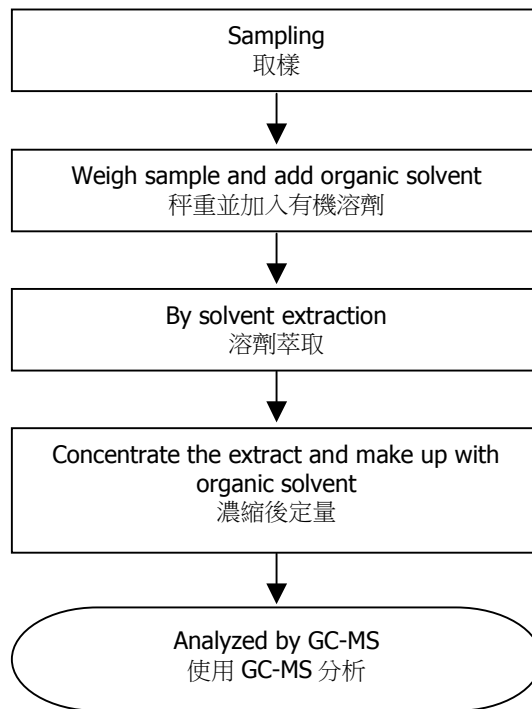
Reference Method 參考方法 : USEPA 3540C



Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

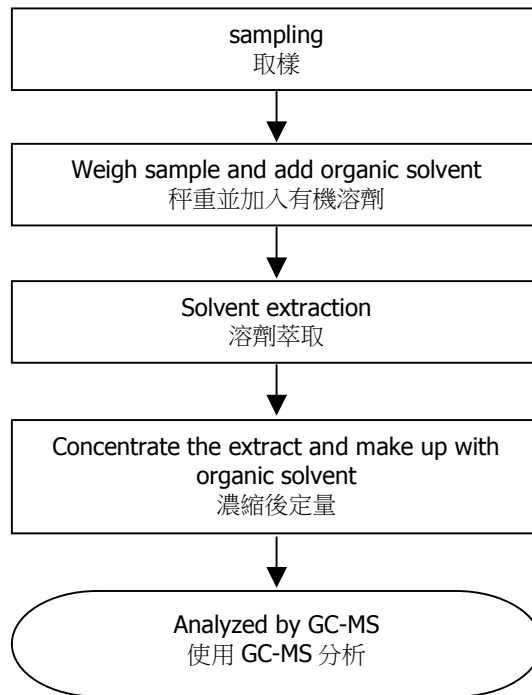
Test for Hexabromocyclododecane (HBCDD) 六溴環十二烷測試
Reference Method 參考方法 : USEPA 3540C



Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Decabromodiphenylethane (DBDPE) Content 十溴二苯乙烷測試
Reference Method 參考方法 : USEPA 3540C

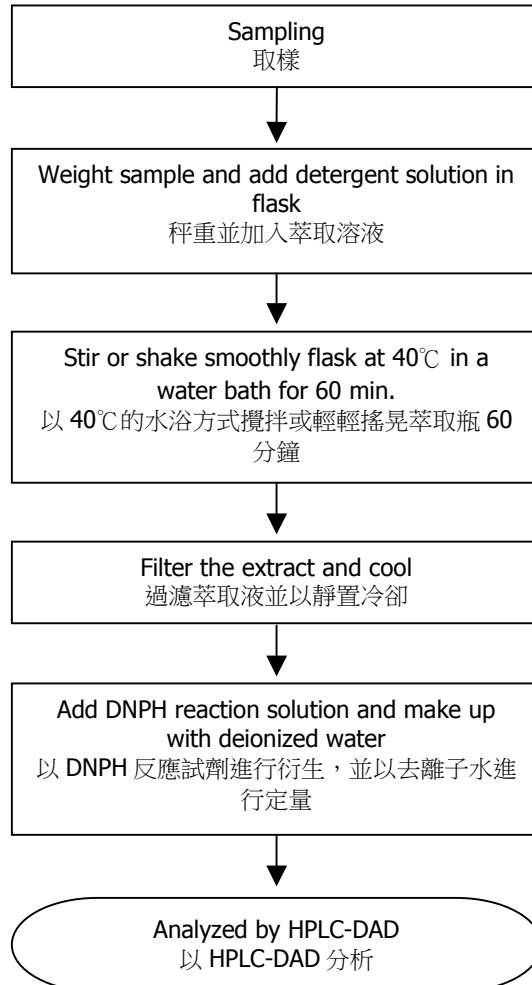


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Formaldehyde Content 甲醛

Reference Standard 參考方法 : ISO 17226-1:2021

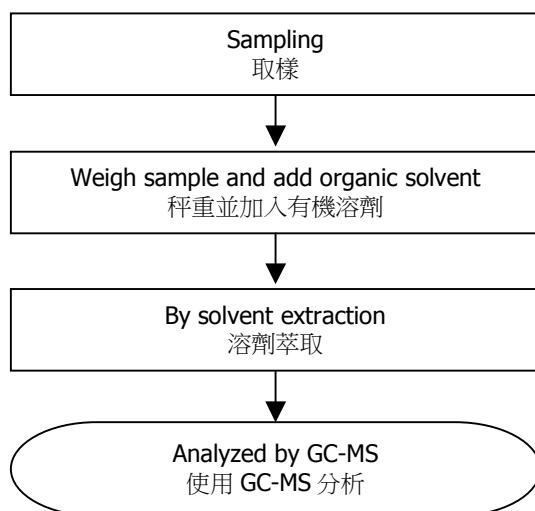


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Dimethyl Fumarate Content 富馬酸二甲酯測試

Reference Method 參考方法: Solvent extraction 溶劑萃取

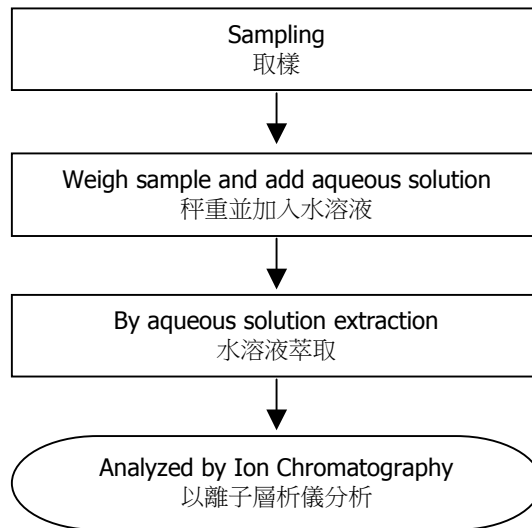


Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

Test for Perchlorates Content 高氯酸鹽測試

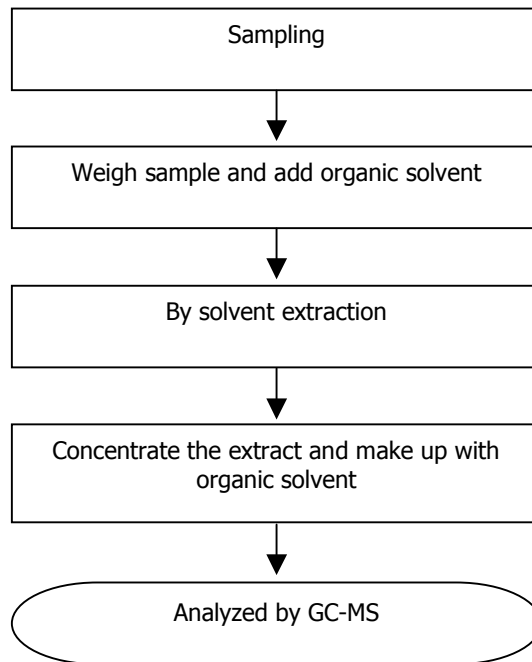
Reference Method 參考方法 : Aqueous extraction 水溶液萃取



Test Conducted 測試內容 :

Measurement Flowchart:

Test for Hexachlorobenzene (HCB)
Reference Method : USEPA 3540C/8081B



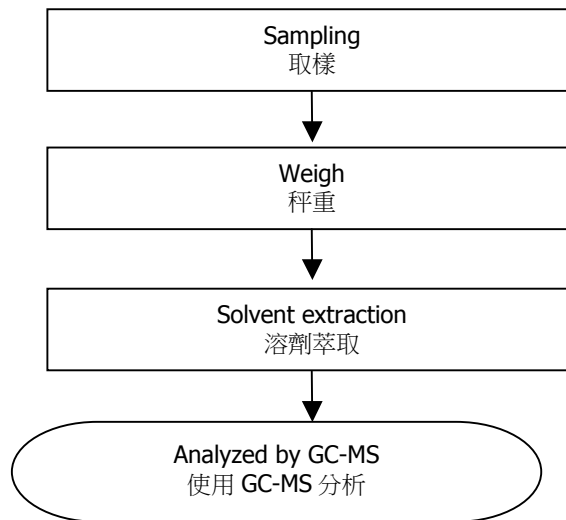
Test Conducted 測試內容 :

Measurement Flowchart 測試流程圖:

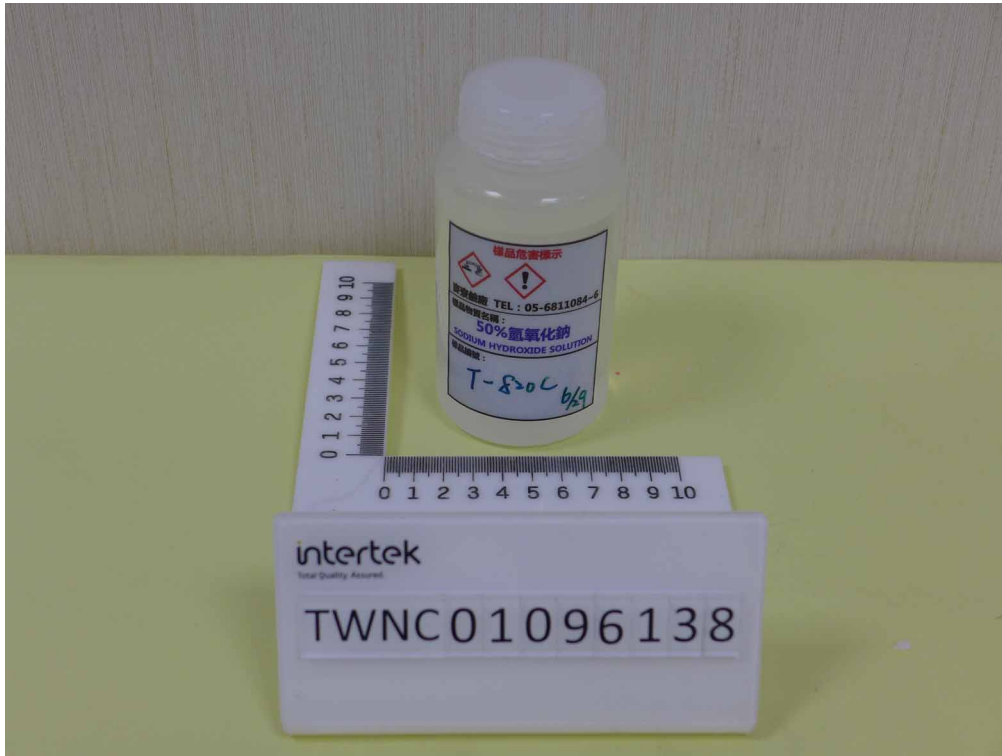
Test for Pentachlorothiophenol (PCTP)/ 2, 4, 6-Tris(tert-butyl) phenol (TTBP)/ Phenol, isopropylated phosphate (3:1) [PIP (3:1)]/ Hexachlorobutadiene (HCBD) Content

五氯硫酚/ 2,4,6 三-叔丁基苯酚/ 異丙基化磷酸三苯/ 六氯丁二烯含量測試

Reference Method 參考方法 : Solvent extraction 溶劑萃取



Sample photo 樣品照片 :



End of Report

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