

## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 1 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

桃園縣楊梅鎮高獅路566-1號

566-1, KAO-SHI ROAD, YANG-MEI, TAO YUAN 32642, TAIWAN, R. O. C.



以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as) :

樣品名稱(Sample Description) : MLCC PRODUCTS  
樣品型號(Style/Item No.) : X7R  
收件日期(Sample Receiving Date) : 2011/06/14  
測試期間(Testing Period) : 2011/06/14 TO 2011/06/20

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

  
Chenyu Kung / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory – Taipei

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號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 2 of 44

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### 測試結果(Test Results)

測試部位(PART NAME)No.1 : 整體混測 (MIXED ALL PARTS)

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
鎘 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 以感應耦合電漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
六價鉻 / Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	參考IEC 62321: 2008方法, 以UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
鈹 / Beryllium (Be)	mg/kg	參考US EPA 3050B方法, 以感應耦合電漿原子發射光譜儀檢測鈹含量. / With reference to US EPA Method 3050B for Beryllium Content. Analysis was performed by ICP-AES.	2	n.d.
氧化鈹 / Beryllium oxide (BeO)***	mg/kg	參考US EPA 3050B方法, 以感應耦合電漿原子發射光譜儀檢測鈹含量. / With reference to US EPA Method 3050B for Beryllium Content. Analysis was performed by ICP-AES.	-	n.d.

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號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 3 of 44

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				No.1
銻 / Antimony (Sb)	mg/kg	參考US EPA 3050B方法, 以感應耦合電漿原子發射光譜儀檢測銻含量. / With reference to US EPA Method 3050B for Antimony Content. Analysis was performed by ICP-AES.	2	n.d.
三氧化二銻 / Antimony trioxide (Sb <sub>2</sub> O <sub>3</sub> ) (#) (CAS No.: 1309-64-4)	mg/kg	參考US EPA 3050B方法, 以感應耦合電漿原子發射光譜儀檢測銻含量. / With reference to US EPA Method 3050B for Antimony Content. Analysis was performed by ICP-AES.	-	n.d.
多氯聯苯 / Polychlorinated Biphenyls (PCBs) (CAS No.: 1336-36-3)	mg/kg	參考US EPA 3540C方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	0.5	n.d.
多氯奈 / Polychlorinated Naphthalene (PCNs)	mg/kg	參考US EPA 3540C方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	5	n.d.
多氯三聯苯 / Polychlorinated Terphenyls (PCTs)	mg/kg	參考US EPA 3540C方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	0.5	n.d.
短鏈氯化石蠟 / Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 85535-84-8)	%	參考US EPA 3540C方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	0.01	n.d.
甲醛 / Formaldehyde (CAS No.: 50-00-0)	mg/kg	參考ISO 17226-1(2008)方法, 以高效液相層析儀/二極體陣列偵測器檢測. / With reference to ISO 17226-1(2008). Analysis was performed by HPLC/DAD.	3	n.d.

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號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 4 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
聚氯乙烯 / PVC	**	以紅外光譜分析及焰色法檢測。 / Analysis was performed by FTIR and FLAME Test.	-	Negative
2- (3', 5'-二叔丁基-2'-羥基苯基) 苯並三氮唑 / 2- (3,5-di-tert-butyl-2-hydroxyphenyl)-2H-benzotriazole (CAS No.: 3846-71-7)	mg/kg	參考US EPA 3540C方法, 以氣相層析/質譜儀檢測之。 / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	5	n.d.
四溴雙酚-A-雙 / TBBP-A-bis (CAS No.: 21850-44-2)	mg/kg	參考US EPA 3550C方法, 以氣相層析儀/質譜儀檢測。 / With reference to US EPA 3550C method. Analysis was performed by GC/MS.	5	n.d.
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide)	mg/kg	參考US EPA 3540C: 1996方法, 以液相層析/質譜儀檢測全氟辛烷磺酸含量。 / With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.
全氟辛酸 (銨) / PFOA (CAS No.: 335-67-1)	mg/kg	參考US EPA 3540C: 1996方法, 以液相層析/質譜儀檢測全氟辛酸(銨)含量。 / With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.
紅磷 / Red phosphorus	**	本測試以熱裂解儀分析。 / Analysis was performed by Pyrolyzer-GC/MS.	-	Negative
二氯化鈷 / Cobalt dichloride (CAS No.: 7646-79-9)	mg/kg	參考SGS內部方法RSTS-EE-SVHC-004, 以感應耦合電漿原子發射光譜儀檢測。 / SGS In-House method-RSTS-EE-SVHC-004. Analyzed by ICP-AES.	5	n.d.

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				No.1
中鏈氯化石蠟 / Medium-Chained Chlorinated Paraffins (C14-C17) (MCCP) (CAS No.: 85535-85-9)	%	參考US EPA 3540C & 8270D方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 3540C & 8270D method. Analysis was performed by GC/MS.	0.01	n.d.
六溴環十二烷 / Hexabromocyclododecane (HBCDD) (CAS No.: 25637-99-4)	mg/kg	參考US EPA 3540C方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	5	n.d.
富馬酸二甲酯 / Dimethyl Fumarate (CAS No.: 624-49-7)	mg/kg	參考US EPA 3550C方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 3550C method. Analysis was performed by GC/MS.	0.1	n.d.
<b>海龍 (Halons)</b>				
海龍 (Halon)-1211 (CAS No.: 353-59-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
海龍 (Halon)-1301 (CAS No.: 75-63-8)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
海龍 (Halon)-2402 (CAS No.: 124-73-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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				No.1
有機錫 / Organic-tin compounds				
三丁基錫 / Tributyl Tin (TBT) (CAS No.: 688-73-3)	mg/kg	參考DIN 38407-13方法，以氣相層析儀/火焰光度偵測器檢測。 / With reference to DIN 38407-13. Analysis was performed by GC/FPD.	0.03	n.d.
三苯基錫 / Triphenyl Tin (TphT) (CAS No.: 668-34-8)	mg/kg	參考DIN 38407-13方法，以氣相層析儀/火焰光度偵測器檢測。 / With reference to DIN 38407-13. Analysis was performed by GC/FPD.	0.03	n.d.
二丁基錫 / Dibutyl Tin (DBT) (CAS No.: 1002-53-5)	mg/kg	參考DIN 38407-13方法，以氣相層析儀/火焰光度偵測器檢測。 / With reference to DIN 38407-13. Analysis was performed by GC/FPD.	0.03	n.d.
二辛基錫 / Dioctyl Tin (DOT) (CAS No.: 94410-05-6)	mg/kg	參考DIN 38407-13方法，以氣相層析儀/火焰光度偵測器檢測。 / With reference to DIN 38407-13. Analysis was performed by GC/FPD.	0.03	n.d.
鹵素 / Halogen				
鹵素（氟） / Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	參考BS EN 14582:2007，以離子層析儀分析。 / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素（氯） / Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg	參考BS EN 14582:2007，以離子層析儀分析。 / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素（溴） / Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	參考BS EN 14582:2007，以離子層析儀分析。 / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.

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				No.1
鹵素 (碘) / Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg	參考BS EN 14582:2007, 以離子層析儀分析。 / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
石棉 / Asbestos				
陽起石 / Actinolite (CAS No.: 77536-66-4)	%	參考NIOSH 9000 / X光繞射定性分析法 (XRD) / With reference to NIOSH 9000 method. Analysis was performed by XRD.	1	Negative
棕石棉 / Amosite (CAS No.: 12172-73-5)	%	參考NIOSH 9000 / X光繞射定性分析法 (XRD) / With reference to NIOSH 9000 method. Analysis was performed by XRD.	1	Negative
斜方角閃石 / Anthophyllite (CAS No.: 77536-67-5)	%	參考NIOSH 9000 / X光繞射定性分析法 (XRD) / With reference to NIOSH 9000 method. Analysis was performed by XRD.	1	Negative
白石棉 / Chrysotile (CAS No.: 12001-29-5)	%	參考NIOSH 9000 / X光繞射定性分析法 (XRD) / With reference to NIOSH 9000 method. Analysis was performed by XRD.	1	Negative
青石棉 / Crocidolite (CAS No.: 12001-28-4)	%	參考NIOSH 9000 / X光繞射定性分析法 (XRD) / With reference to NIOSH 9000 method. Analysis was performed by XRD.	1	Negative
透閃石 / Tremolite (CAS No.: 77536-68-6)	%	參考NIOSH 9000 / X光繞射定性分析法 (XRD) / With reference to NIOSH 9000 method. Analysis was performed by XRD.	1	Negative

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 8 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

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566-1, KAO-SHI ROAD, YANG-MEI, TAO YUAN 32642, TAIWAN, R. O. C.



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
可塑劑定量分析 / Phthalates				
鄰苯二甲酸甲苯基丁酯 / BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	%	參考EN 14372, 以氣相層析儀/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二(2-乙基己基)酯 / DEHP (Di-(2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	參考EN 14372, 以氣相層析儀/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二異癸酯 / DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0)	%	參考EN 14372, 以氣相層析儀/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二異壬酯 / DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0)	%	參考EN 14372, 以氣相層析儀/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.01	n.d.
鄰苯二甲酸二正辛酯 / DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0)	%	參考EN 14372, 以氣相層析儀/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	參考EN 14372, 以氣相層析儀/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
鄰苯二甲酸二己酯 / DNHP (Di-n-hexyl phthalate) (CAS No.: 84-75-3)	%	參考EN 14372, 以氣相層析儀/質譜儀檢測之. / With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 9 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
多溴聯苯總和 / Sum of PBBs	mg/kg	參考IEC 62321: 2008方法, 以氣相層析儀/ 質譜儀檢測. / With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
一溴聯苯 / Monobromobiphenyl			5	n.d.
二溴聯苯 / Dibromobiphenyl			5	n.d.
三溴聯苯 / Tribromobiphenyl			5	n.d.
四溴聯苯 / Tetrabromobiphenyl			5	n.d.
五溴聯苯 / Pentabromobiphenyl			5	n.d.
六溴聯苯 / Hexabromobiphenyl			5	n.d.
七溴聯苯 / Heptabromobiphenyl			5	n.d.
八溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl			5	n.d.
十溴聯苯 / Decabromobiphenyl			5	n.d.
多溴聯苯醚總和 / Sum of PBDEs			-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether			5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether			5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether			5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether			5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether			5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.
八溴聯苯醚 / Octabromodiphenyl ether			5	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether			5	n.d.
十溴聯苯醚 / Decabromodiphenyl ether			5	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 10 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
偶氮 (AZO)				
1): 4-氨基二苯 / 4-AMINODIPHENYL (CAS No.: 92-67-1)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
2): 聯苯胺 / BENZIDINE (CAS No.: 92- 87-5)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
3): 4-氯鄰甲苯胺 / 4-CHLORO-O- TOLUIDINE (CAS No.: 95-69-2)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
4): 2-萘胺 / 2-NAPHTHYLAMINE (CAS No.: 91-59-8)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
5): 鄰氨基二甲基偶氮 / O- AMINOAZOTOLUENE (CAS No.: 97-56-3)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
6): 對硝基鄰甲苯胺 / 2-AMINO-4- NITROTOLUENE (CAS No.: 99-55-8)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
7): 對氯苯胺 / P-CHLOROANILINE (CAS No.: 106-47-8)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 11 of 44

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WALSIN TECHNOLOGY CORPORATION

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
8): 4-甲氧基-間苯二胺 / 2,4-DIAMINOANISOLE (CAS No.: 615-05-4)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
9): 4,4'-二氨基二苯甲烷 / 4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 101-77-9)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
10): 3,3'-二氯聯苯胺 / 3,3'-DICHLOROBENZIDINE (CAS No.: 91-94-1)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
11): 3,3'-二甲氧基聯苯胺 / 3,3'-DIMETHOXYBENZIDINE (CAS No.: 119-90-4)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
12): 3,3'-二甲基聯苯胺 / 3,3'-DIMETHYLBENZIDINE (CAS No.: 119-93-7)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
13): 3,3'-二甲基-4,4'-二氨基二苯甲烷 / 3,3'-DIMETHYL-4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 838-88-0)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
14): 2-甲氧基-5-甲基聯苯 / P-CRESIDINE (2-METHOXY-5-METHYLANILINE) (CAS No.: 120-71-8)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 12 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
15): 4,4'-亞甲基雙(氯苯胺) / 4,4'-METHYLENE-BIS-(2-CHLOROANILINE) (CAS No.: 101-14-4)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
16): 4,4'-氧化雙苯胺 / 4,4'-OXYDIANILINE (CAS No.: 101-80-4)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
17): 4,4'-硫代雙苯胺 / 4,4'-THIODIANILINE (CAS No.: 139-65-1)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
18): 鄰甲苯胺 / O-TOLUIDINE (CAS No.: 95-53-4)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
19): 2,4-二氨基甲苯 / 2,4-TOLUYLENEDIAMINE (CAS No.: 95-80-7)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
20): 2,4,5-三甲基苯胺 / 2,4,5-TRIMETHYLANILINE (CAS No.: 137-17-7)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
21): 鄰位甲氧基苯胺 / O-ANISIDINE (CAS No.: 90-04-0)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 13 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
22): 對氨基偶氮苯 / P-AMINOAZOBENZENE (CAS No.: 60-09-3)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
23): 2,4-二甲基苯胺 / 2,4-XYLIDINE (CAS No.: 95-68-1)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
24): 2,6-二甲基苯胺 / 2,6-XYLIDINE (CAS No.: 87-62-7)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
<b>氫氟碳化物 / HFCs (Hydrofluorocarbon)</b>				
氫氟碳化物 (HFC)-23 (CHF <sub>3</sub> ) (CAS No.: 75-46-7)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-32 (CH <sub>2</sub> F <sub>2</sub> ) (CAS No.: 75-10-5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-41 (CH <sub>3</sub> F) (CAS No.: 593-53-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-43-10mee (C <sub>5</sub> H <sub>2</sub> F <sub>10</sub> )	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 14 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

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566-1, KAO-SHI ROAD, YANG-MEI, TAO YUAN 32642, TAIWAN, R. O. C.



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氫氟碳化物 (HFC)-125 (C2HF5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-134 (C2H2F4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-134a (CH2FCF3) (CAS No.: 811-97-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-143 (CH3F3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-143a (CH3F3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-152a (C2H4F2) (CAS No.: 75-37-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-227ea (C3HF7) (CAS No.: 431-89-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 15 of 44

華新科技股份有限公司

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氫氟碳化物 (HFC)-236fa (C3H2F6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-236ea (C3H2F6) (CAS No.: 431-63-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-245ca (C3H3F5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-245fa (C3H3F5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物 (HFC)-365mfc (C4H5F5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氟碳化物 / PFCs (Perfluorocarbon)				
四氟甲烷 / F14 (CAS No.: 75-73-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
六氟乙烷 / Fluorocarbon 116 (CAS No.: 76-16-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 16 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
八氟丙烷 / Freon 218 (CAS No.: 76-19-7)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
十氟丁烷 / Decafluorobutane (CAS No.: 355-25-9)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
八氟環丁烷 / Freon C318 (CAS No.: 115-25-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氟-1-丁烯 / Perfluor-1-butene (CAS No.: 357-26-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氟異丁烯 / perfluorisobutene (CAS No.: 382-21-8)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,4-二氫八氟丁烷 / 1,4-dihydrooctafluorobutane (CAS No.: 377-36-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
2-全氟甲基丁烷 / nonafluor-2-(trifluoromethyl)butane (CAS No.: 594-91-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 17 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
全氟戊烷 / perfluoro-n-pentane (CAS No.: 678-26-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
2-全氟甲基戊烷 / 2-perfluoromethylpentane (CAS No.: 355-04-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氟己烷 / perfluorohexane (CAS No.: 355-42-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 / CFCs (Chlorofluorocarbons)				
Group I				
氟氯碳化物 (Chlorofluorocarbon)-11 (CAS No.: 75-69-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-12 (CAS No.: 75-71-8)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-113 (CAS No.: 76-13-1)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 18 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氟氯碳化物 (Chlorofluorocarbon)-114 (CAS No.: 76-14-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-115 (CAS No.: 76-15-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
Group III				
氟氯碳化物 (Chlorofluorocarbon)-13 (CAS No.: 75-72-9)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-111 (CAS No.: 354-56-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-112 (CAS No.: 76-12-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-211 (CAS No.: 422-78-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-212 (CAS No.: 3182-26-1)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 19 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氟氯碳化物 (Chlorofluorocarbon)-213 (CAS No.: 2354-06-5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-214 (CAS No.: 29255-31-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-215 (CAS No.: 4259-43-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-216 (CAS No.: 661-97-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物 (Chlorofluorocarbon)-217 (CAS No.: 422-86-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 / HCFCs (Hydrochlorofluorocarbons)				
氟氯氫碳化物 (HCFC)-21 (CAS No.: 75- 43-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-22 (CAS No.: 75- 45-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀 檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 20 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

桃園縣楊梅鎮高獅路566-1號

566-1, KAO-SHI ROAD, YANG-MEI, TAO YUAN 32642, TAIWAN, R. O. C.



測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氟氯氫碳化物 (HCFC)-31 (CAS No.: 593-70-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-121 (CAS No.: 354-14-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-122 (CAS No.: 354-21-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-123 (CAS No.: 306-83-2)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-124 (CAS No.: 2837-89-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-131 (CAS No.: 359-28-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-132b (CAS No.: 1649-08-7)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 21 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氟氯氫碳化物 (HCFC)-133a (CAS No.: 75-88-7)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-141b (CAS No.: 1717-00-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-142b (CAS No.: 75-68-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-221 (CAS No.: 422-26-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-222 (CAS No.: 422-49-1)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-223 (CAS No.: 422-52-6)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-224 (CAS No.: 422-54-8)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 22 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氟氯氫碳化物 (HCFC)-225ca (CAS No.: 422-56-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-225cb (CAS No.: 507-55-1)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-226 (CAS No.: 431-87-8)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-231 (CAS No.: 421-94-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-232 (CAS No.: 460-89-9)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-233 (CAS No.: 7125-84-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-234 (CAS No.: 425-94-5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測。 / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 23 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氟氯氫碳化物 (HCFC)-235 (CAS No.: 460-92-4)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-241 (CAS No.: 666-27-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-242 (CAS No.: 460-63-9)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-243 (CAS No.: 460-69-5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-244	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-251 (CAS No.: 421-41-0)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-252 (CAS No.: 819-00-1)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 24 of 44

華新科技股份有限公司

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
氟氯氫碳化物 (HCFC)-253 (CAS No.: 460-35-5)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-261 (CAS No.: 420-97-3)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-262 (CAS No.: 421-02-03)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 (HCFC)-271 (CAS No.: 430-55-7)	mg/kg	參考US EPA 5021方法, 以氣相層析/質譜儀檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	結果 (Result)
			No.1
放射性物質 / Radioactive Substances	μSv/ hour	蓋革計數器 (Geiger counter)	Negative*

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 25 of 44

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限值 (MDL)	結果 (Result)
				No.1
多苯環芳香族化合物 / Polynuclear Aromatic Hydrocarbons (PAHs)				
Acenaphthene (CAS No.: 83-32-9)	mg/kg	參考ZLS standard ZEK 01.2-08方法, 以氣相層析/質譜儀檢測. / With reference to ZLS standard ZEK 01.2-08 method. Analysis was performed by GC/MS.	0.2	n.d.
Acenaphthylene (CAS No.: 208-96-8)			0.2	n.d.
Anthracene (CAS No.: 120-12-7)			0.2	n.d.
Benzo[a]anthracene (CAS No.: 56-55-3)			0.2	n.d.
Benzo[a]pyrene (CAS No.: 50-32-8)			0.2	n.d.
Benzo[b]fluoranthene (CAS No.: 205-99-2)			0.2	n.d.
Benzo[g,h,i]perylene (CAS No.: 191-24-2)			0.2	n.d.
Benzo[k]fluoranthene (CAS No.: 207-08-9)			0.2	n.d.
Chrysene (CAS No.: 218-01-9)			0.2	n.d.
Dibenzo[a,h]anthracene (CAS No.: 53-70-3)			0.2	n.d.
Fluoranthene (CAS No.: 206-44-0)			0.2	n.d.
Fluorene (CAS No.: 86-73-7)			0.2	n.d.
Indeno[1,2,3-c,d] pyrene (CAS No.: 193-39-5)			0.2	n.d.
Naphthalene (CAS No.: 91-20-3)			0.2	n.d.
Phenanthrene (CAS No.: 85-01-8)			0.2	n.d.
Pyrene (CAS No.: 129-00-0)			0.2	n.d.
多苯環芳香族化合物16項總和 / Sum of 16 PAHs			-	n.d.

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 26 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

桃園縣楊梅鎮高獅路566-1號

566-1, KAO-SHI ROAD, YANG-MEI, TAO YUAN 32642, TAIWAN, R. O. C.



### 備註(Note) :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. "-" = Not Regulated (無規格值)
5. \*\* = Qualitative analysis (No Unit) 定性分析(無單位)
6. Negative = Undetectable 陰性(未偵測到); Positive = Detectable 陽性(已偵測到)
7. 石棉(Asbestos) : Negative = 陰性 (< 1.0 %), Positive = 陽性 (> 1.0 %)
8. (#) : 該物質是由銻之測試結果計算得知。其MDL是針對銻之評估。(The substance was calculated by the test result of Antimony. The MDL was evaluated for Antimony.)

$$AX = A \times F$$

AX	A	F
三氧化二銻 / Antimony trioxide (Sb <sub>2</sub> O <sub>3</sub> )	銻 / Antimony	1.1971

9. \*\*\* : 該物質是由鉍之測試結果計算得知。其MDL是針對鉍之評估。(The substance was calculated by the test results of Beryllium. The MDL was evaluated for Beryllium.)
10. Negative\*/Positive\* : 蓋革計數器偵測放射性物質的檢測結果係利用檢測值與環境背景值相比較的結果，一般天然環境下都存在微量的輻射劑量(一般環境背景的輻射劑量約小於等於0.2μSv/hr)。如果檢測值低於環境背景值時，表示正常或無異常(Negative\*)；相反地，檢測值高於環境背景值時，表示異常(Positive\*)。  
(The test result of Geiger counter is from comparison between test outcome and environment background. In general, there is little radiation dose existing in environment. (Radiation dose from environment background usually less than or equal to 0.2μSv/hr)  
The test result less than environment background was shown as Negative\*; the result greater than environment background was shown as Positive\*.)
11. 鉍青銅是一種主要成份為鉍及銅的合金，當偵測不到總鉍含量時，亦表示不含鉍青銅。  
(Since beryllium copper is a metal alloy of copper and beryllium and the test result is n.d. for beryllium, we can have conclusion that the beryllium copper is n.d..)
12. 樣品的測試是基於申請人要求混合測試，報告中的混合測試結果不代表其中個別單一材質的含量。(The samples was/were analyzed on behalf of the applicant as mixing sample in one testing. The above results was/were only given as the informality value.)

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## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 27 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

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566-1, KAO-SHI ROAD, YANG-MEI, TAO YUAN 32642, TAIWAN, R. O. C.



### PFOS參考資訊(Reference Information) : 指令 2006/122/EC (Directive 2006/122/EC)

- (1) 該物質不可置於市場上或使用於特殊物質或配置成分重量濃度等於或大於0.005%.

(May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005% by mass.)

- (2) 該物質不可置於市場上的半成品或商品或其物件；假若零件上明顯地具有PFOS並參照結構上及微細構造上計算PFOS重量濃度等於或大於0.1%，而紡織品或其他覆蓋物質，如果PFOS在覆蓋物質中含量等於或大於 $1\mu\text{g}/\text{m}^2$ .

(May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1% by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than  $1\mu\text{g}/\text{m}^2$  of the coated material.)

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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 28 of 44

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### PAHs參考資料(Reference information) :

### 依據ZEK 01.2-08之要求：產品中最大值為

### (Requirement of ZEK 01.2-08 : Restraining maximum values for products)

項目 (Parameter)	第1類 (Category 1)	第2類 (Category 2)	第3類 (Category 3)
	與食品接觸或放入嘴內的材料，以及給三歲以下的幼兒使用的玩具。 (Materials in contact with foodstuff or materials which are meant to put in the mouth as well as toys for children <36 months.)	持續地(長時間)與皮膚接觸逾30秒，以及不屬第1類的玩具。 (Materials with foreseeable skin contact >30 s (prolonged skin contact) and toys not covered by category 1.)	暫時地(短時間)與皮膚接觸但不逾30秒或不會與皮膚接觸。 (Materials with foreseeable skin contact <30 s (short time skin contact) or without skin contact.)
苯并(a)芘 Benzo[a]pyrene (mg/kg)	<MDL (<0.2)**	1	20
環保署規範16項PAH 總濃度 (Sum of 16 EPA-PAH) (mg/kg)*	<MDL (<0.2)**	10	200

### 注意(Remark):

\* = PAH濃度大於0.2mg/kg時，則須計算PAH總濃度值。

(Only PAH substances >0.2 mg/kg are taken into account while calculating the sum of PAHs.)

\*\* = 最大濃度值超出等級一的限制，但在等級二的濃度限制值內時，可能需要確認測試材質是否合適於食品容器或是依照DIN EN1186ff/ § 64 LFGB 80.30-1方法，針對特定PAH的遷移測試進行測試。遷移測試的結論需依照食品法規規範。

(In case that the maximum values exceed the limits of category 1, but are within the limits of category 2, one may confirm the suitability of the tested material for contact with foodstuff or oral mucosa by additional specific migration tests of PAH components based on DIN EN 1186ff and § 64 LFGB 80.30-1. The conclusion of the migration test results must be made based on food law criteria.)

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號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 29 of 44

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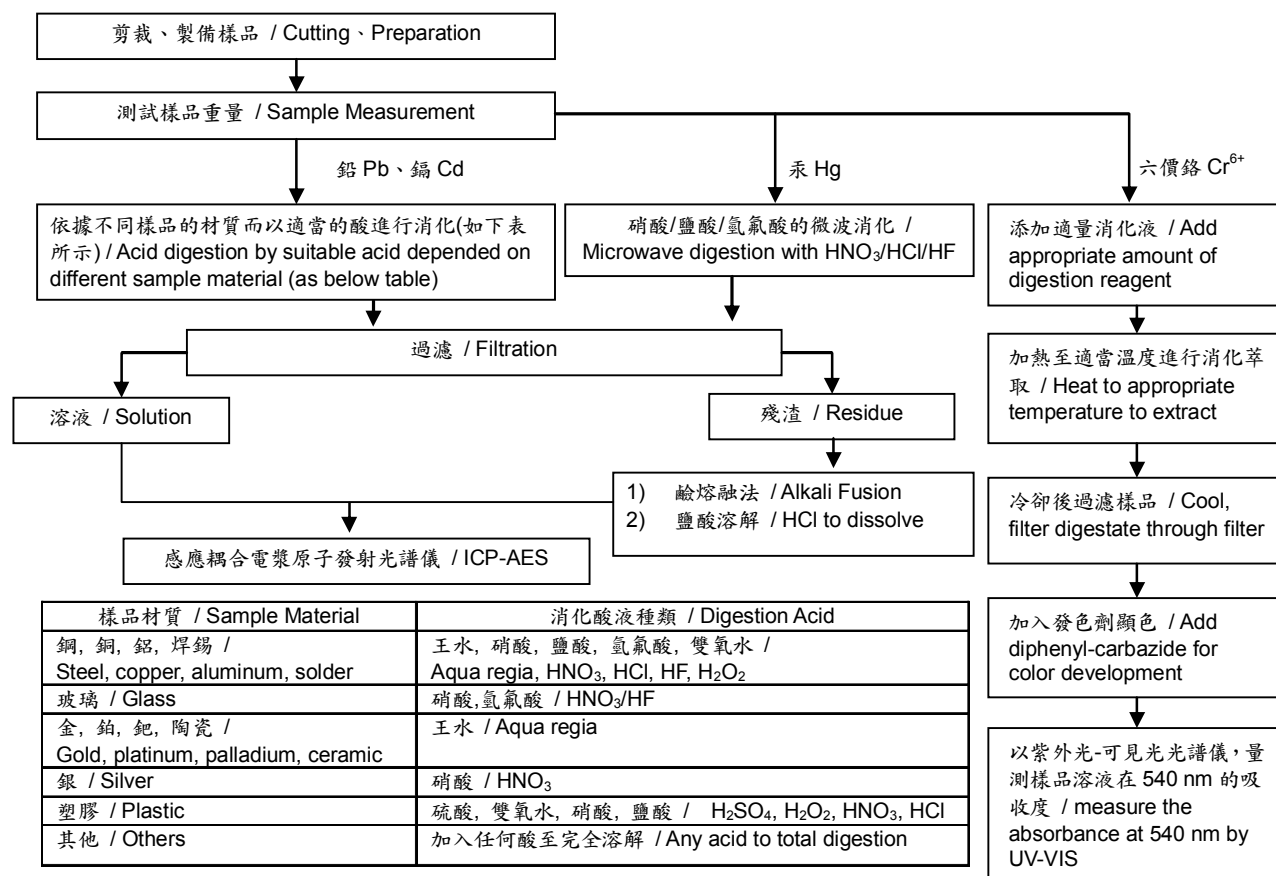
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- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 30 of 44

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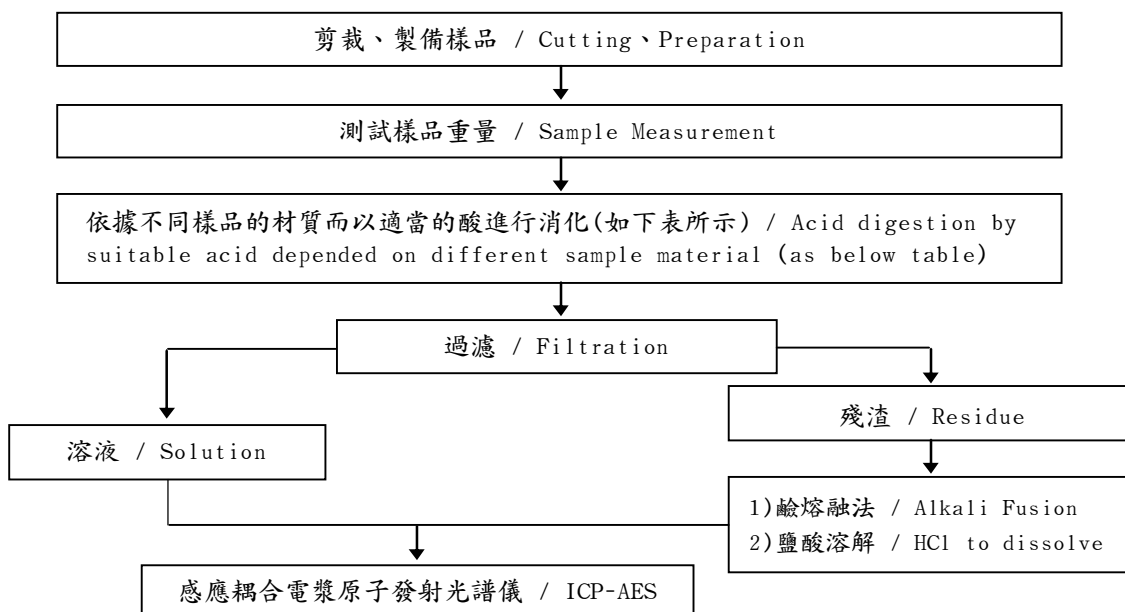
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- 1) 根據以下的流程圖之條件，樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

### 元素以 ICP-AES 分析的消化流程圖

(Flow Chart of digestion for the elements analysis performed by ICP-AES)



鋼, 銅, 鋁, 焊錫 / Steel, copper, aluminum, solder	王水, 硝酸, 鹽酸, 氫氟酸, 雙氧水 / Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
玻璃 / Glass	硝酸, 氫氟酸 / HNO <sub>3</sub> /HF
金, 鉑, 鈀, 陶瓷 / Gold, platinum, palladium, ceramic	王水 / Aqua regia
銀 / Silver	硝酸 / HNO <sub>3</sub>
塑膠 / Plastic	硫酸, 雙氧水, 硝酸, 鹽酸 / H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
其他 / Others	加入任何酸至完全溶解 / Any acid to total digestion

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## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 31 of 44

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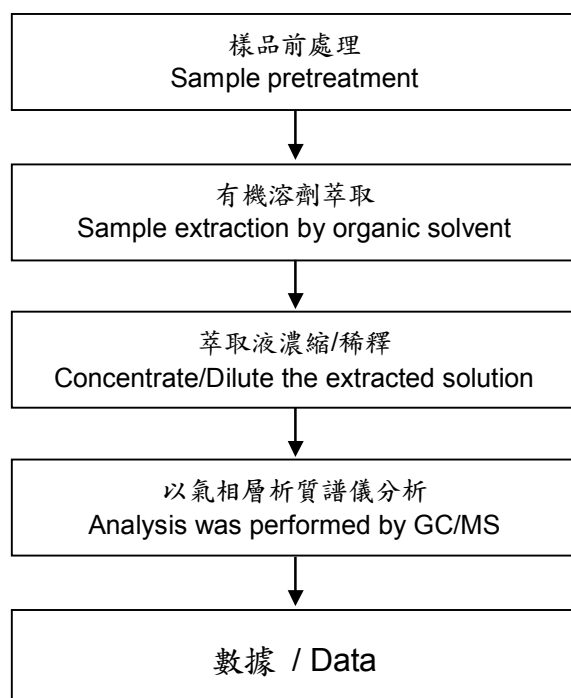
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### 含氯阻燃劑分析流程 / Chlorinated Flame retardant analytical flow chart

- 1) 測試人員：曾勃鈞 / Name of the person who made measurement: Barry Tseng
- 2) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

- 參考方法(Reference method): US EPA 8270D, US EPA 3540
- 測試項目(Test Items): PCBs, PCNs, PCTs, Mirex, CP, MCCP / 多氯聯苯, 多氯奈, 多氯三聯苯, 滅蟻靈, 氯化石蠟, 中鏈氯化石蠟



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號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 32 of 44

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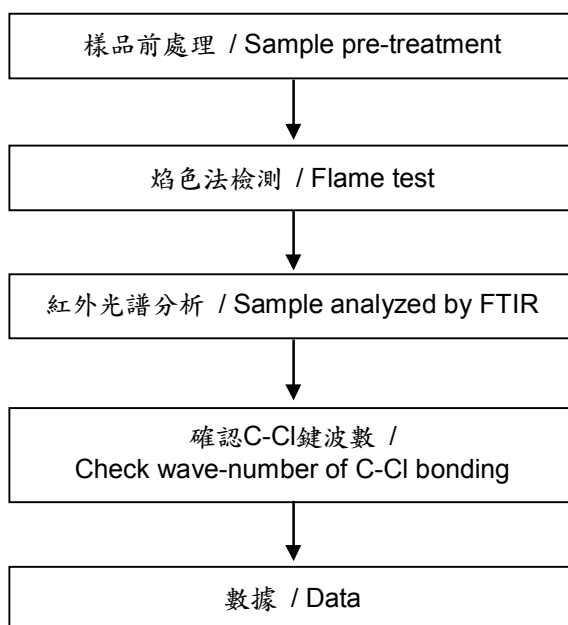
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### 聚氯乙稀物質判定分析流程圖 /

### Analysis flow chart for determination of PVC in material

- 測試人員：陳君涵 / Name of the person who made measurement: Ginny Chen
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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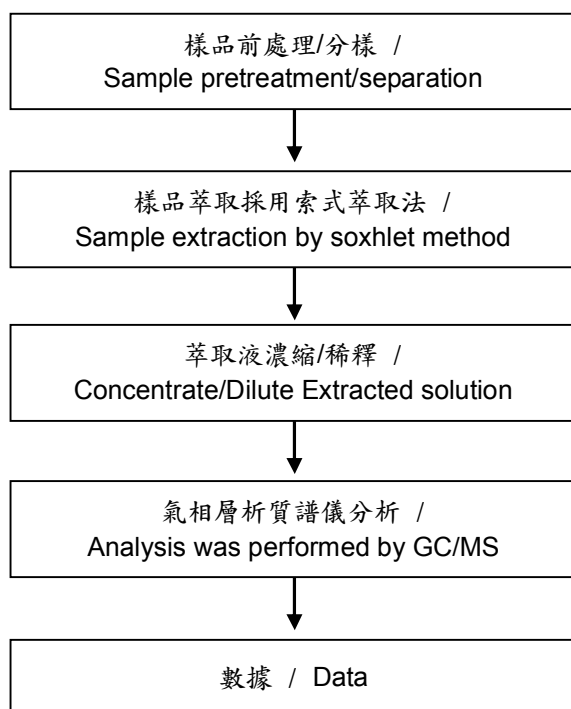
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### 索式萃取分析流程圖 / Analytical flow chart of Soxhlet extraction (GC/MS) procedure

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

【測試項目：可塑劑、苯並三唑類化合物、六溴環十二烷、壬酚、單甲基二溴二苯基甲烷、有機磷化合物 / Test Items: Phthalate、Benzotriazole、HBCDD、NP、DBBT、Organic phosphorus compounds】



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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 34 of 44

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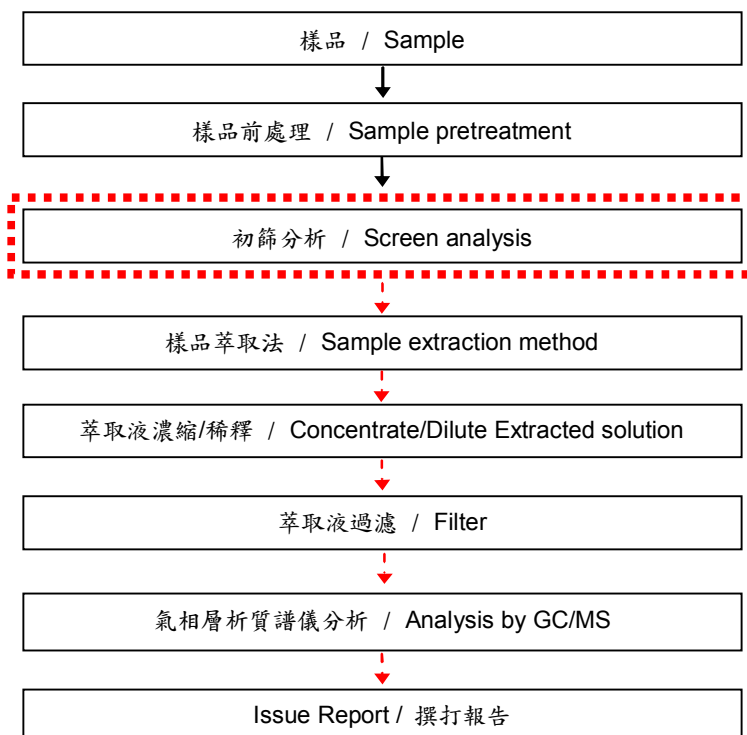
566-1, KAO-SHI ROAD, YANG-MEI, TAO YUAN 32642, TAIWAN, R. O. C.



### 分析流程圖 / Analytical flow chart

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
  - 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang
- 【測試項目(Test Items): 多溴聯苯/多溴聯苯醚、四溴雙酚-A-雙 / PBB/PBDE, TBBP-A-bis】

初次測試程序 / First testing process → 選擇性篩檢程序 / Optional screen process ..... 確認程序 / Confirmation process - - -▶



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## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 35 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

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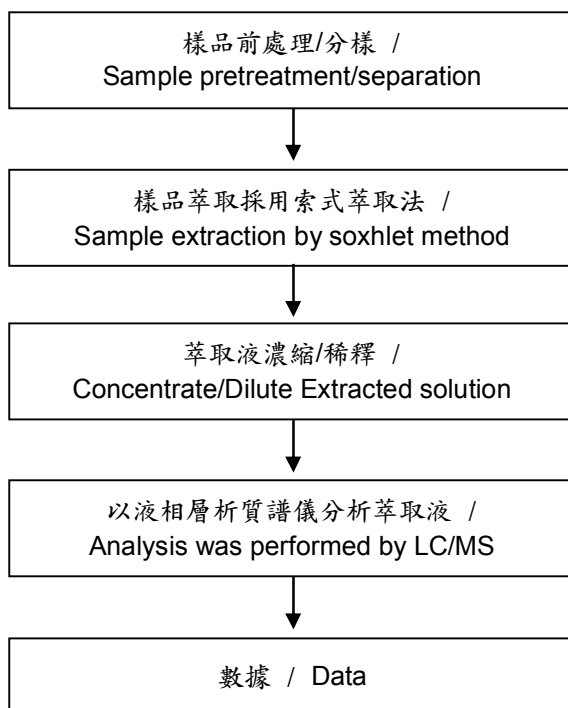
### 索式萃取分析流程圖 /

### Analytical flow chart of Soxhlet extraction (LC/MS) procedure

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

【測試項目：全氟辛烷磺酸/全氟辛酸(銨)、苯並三唑類化合物 /

Test Items: PFOS/PFOA、Benzotriazole】



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## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 36 of 44

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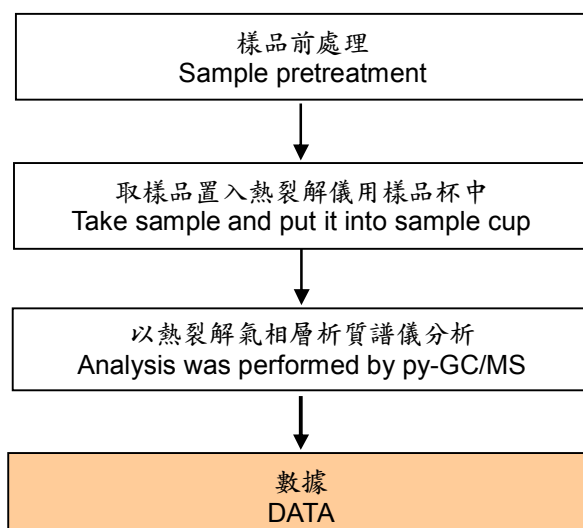
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### 紅磷分析流程 / Analytical flow chart of Red phosphorus

- 測試人員：陳君涵 / Name of the person who made measurement: Ginny Chen
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 37 of 44

華新科技股份有限公司

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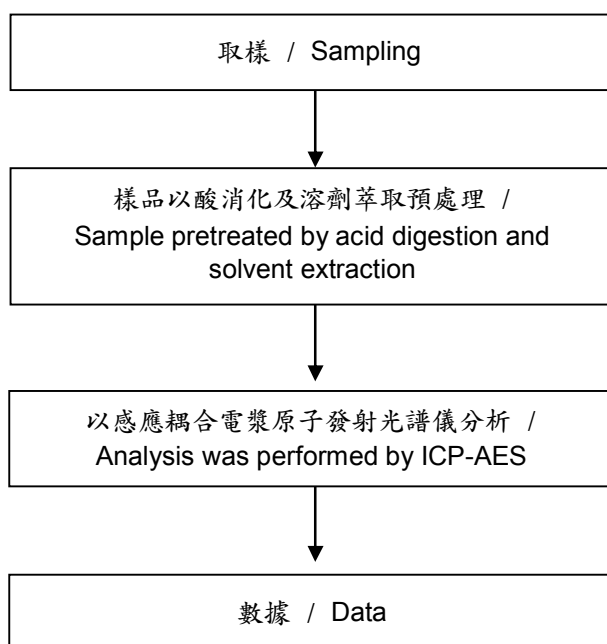
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### 二氯化鈷分析流程圖 / Analytical flow chart of Cobalt dichloride

- 1) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 2) 測試負責人：龔振裕 / Name of the person in charge of measurement: Chenyu Kung



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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 38 of 44

華新科技股份有限公司

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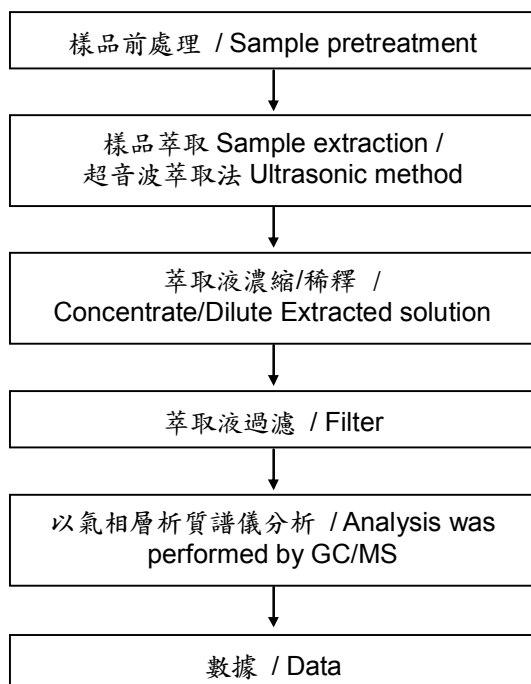
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### 超音波萃取分析流程圖 / Analytical flow chart of Ultrasonic extraction (GC/MS) procedure

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang

【測試項目：六溴環十二烷、烷基酚、富馬酸二甲酯、多苯環芳香族化合物、乙二醇醚及其酯類、N-甲基吡咯烷酮 / Test Items: HBCDD、AP、Dimethyl Fumarate、PAHs、Ethylene glycol ether、1-methyl-2-pyrrolidone】



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## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 39 of 44

華新科技股份有限公司

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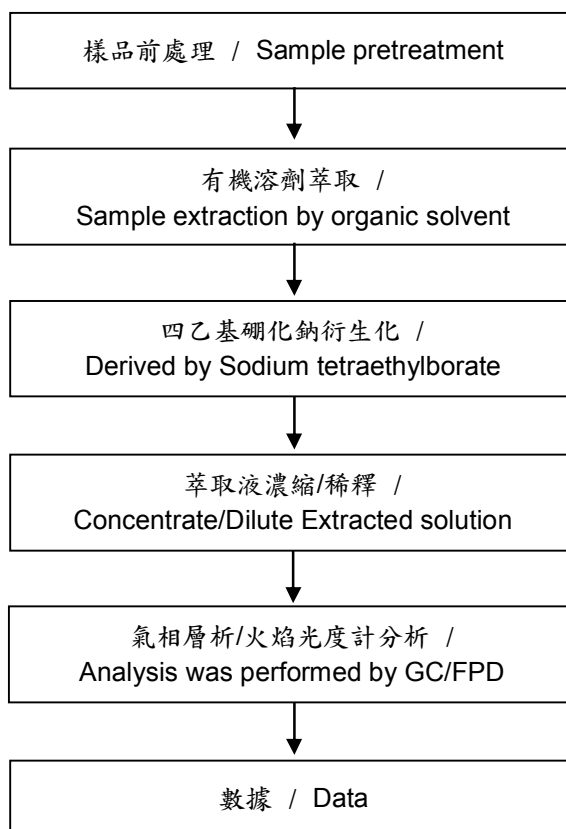
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### 有機錫分析流程圖 / Analytical flow chart of Organic-Tin content

- 測試人員：陳君涵 / Name of the person who made measurement: Ginny Chen
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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# 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 40 of 44

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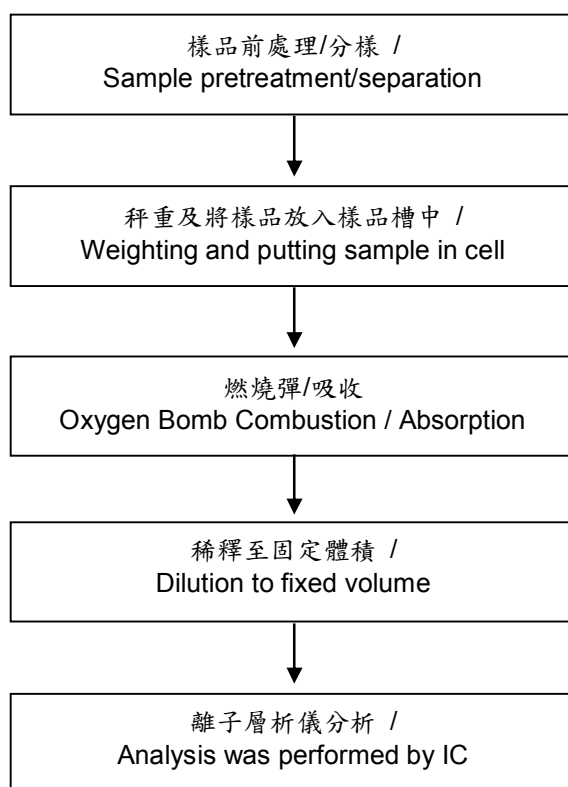
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## 鹵素分析流程圖 / Analytical flow chart of halogen content

- 1) 測試人員：陳恩臻 / Name of the person who made measurement: Rita Chen
- 2) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 41 of 44

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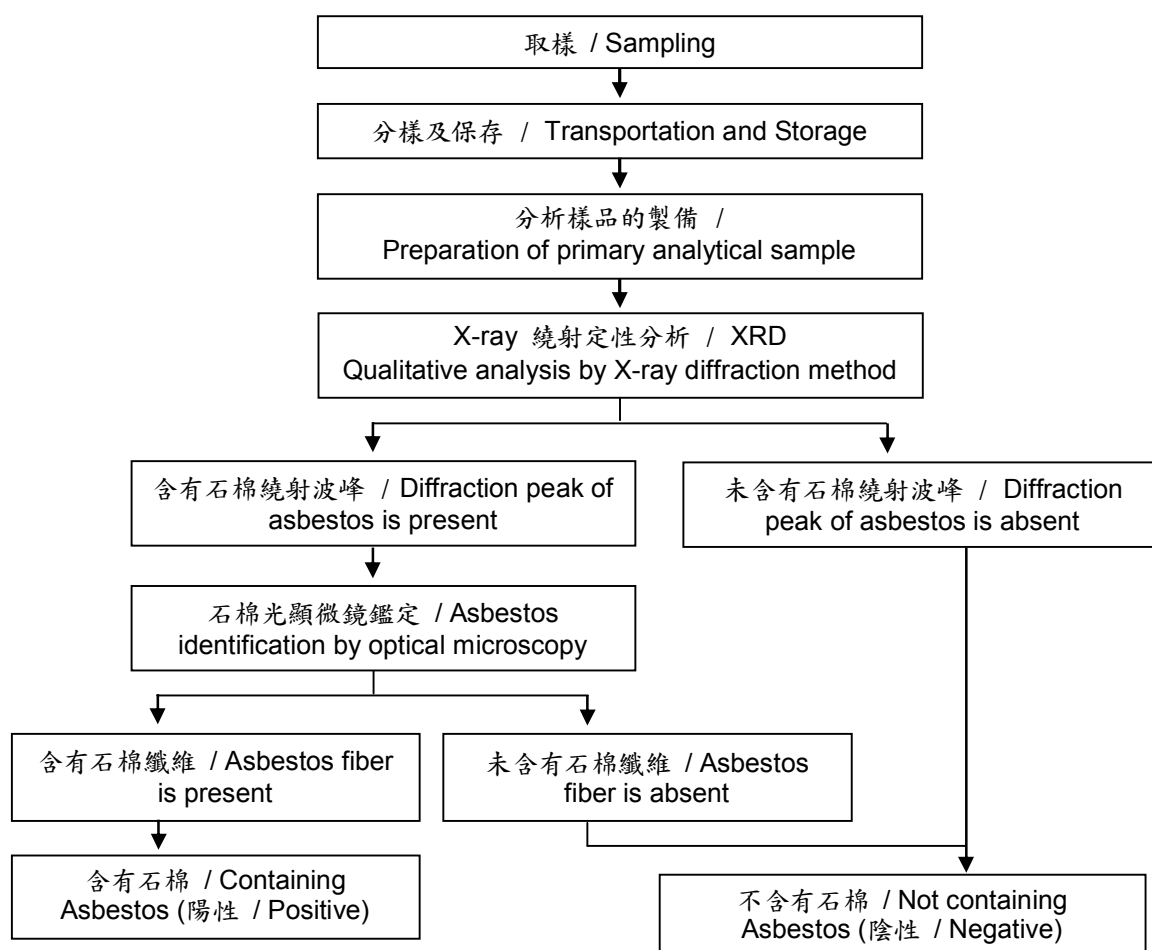
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### 石棉物質判定分析流程圖 / Analysis flow chart for determination of Asbestos

- 1) 測試人員：高鍵忠 / Name of the person who made measurement: Victor Kao
- 2) 測試負責人：魏明芬 / Name of the person in charge of measurement: Wendy Wei



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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 42 of 44

華新科技股份有限公司

WALSIN TECHNOLOGY CORPORATION

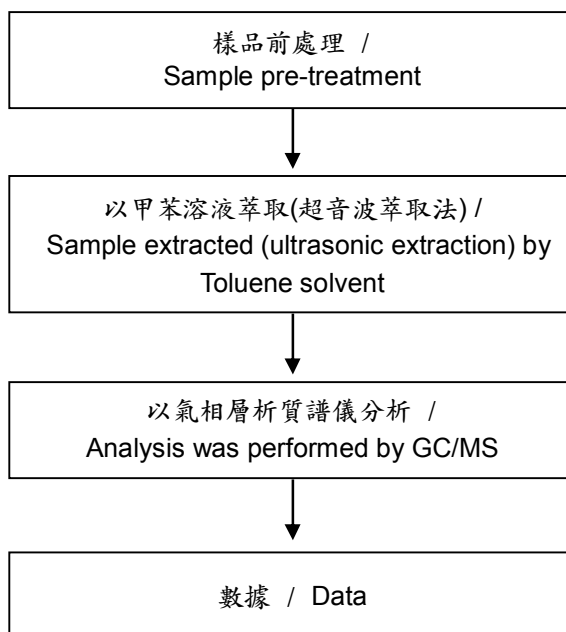
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### 多苯環芳香族化合物分析流程圖 / PAHs (Polynuclear Aromatic Hydrocarbons) analytical flow chart

- 測試人員：翁賜彬 / Name of the person who made measurement: Roman Wong
- 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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# 測試報告

## Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 43 of 44

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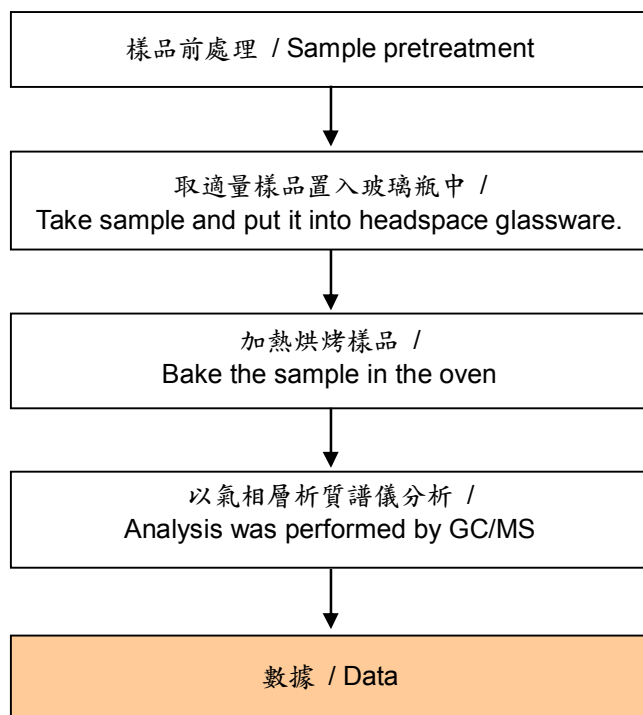
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### 揮發性有機化合物分析流程圖 / Analytical flow chart of volatile organic compounds (VOCs)

- 測試人員：吳椿景 / Name of the person who made measurement : Chun Wu
  - 測試負責人：陳新智 / Name of the person in charge of measurement : Shinjyh Chen
- 【參考方法(Reference method) : US EPA 5021】



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## 測試報告 Test Report

號碼(No.) : CE/2011/64766 日期(Date) : 2011/06/20 頁數(Page) : 44 of 44

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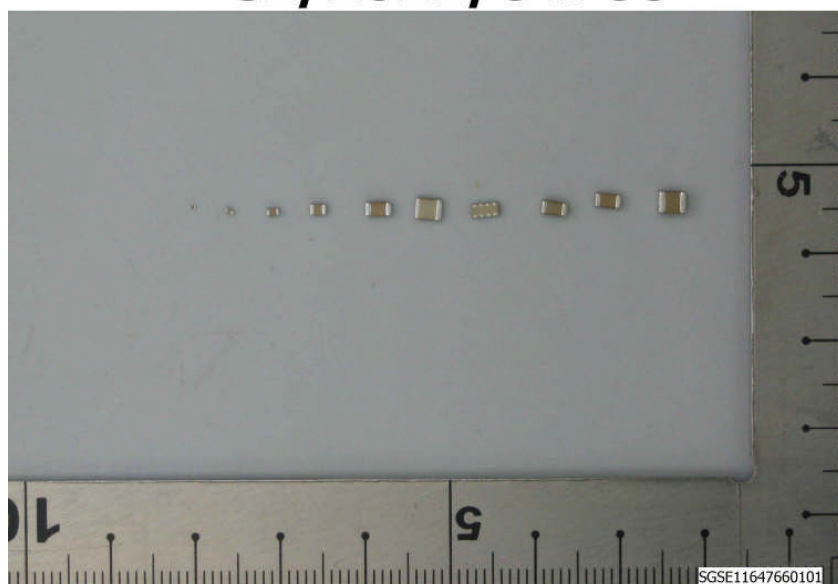
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