

號碼(No.): EKR23A01278 日期(Date): 07-Nov-2023

MITSUI HIGH-TEC INC.

10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by the applicant as) :						
送樣廠商(Sample Submitted By) 樣品名稱(Sample Name)	:	MITSUI HIGH-TEC INC. Ag PLATING MATERIAL				
收件日(Sample Receiving Date) 測試期間(Testing Period)	:	30-Oct-2023 30-Oct-2023 to 07-Nov-2023				
測試需求(Test Requested) :	(1)	依據客戶指定,參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試 鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)				
	(2)	依據客戶要求,參考美國毒管法(TSCA)第6(h)章節,進行5項持久性生物累積毒性 物質 (PBTs)測試,測試項目請參閱測試結果表格。(As specified by client, the sample(s) was/were tested for 5 PBTs with reference to Regulation of Persistent, Bioaccumulative, Toxic (PBT) Chemicals under Toxic Substances Control Act (TSCA) Section 6(h). Please refer to result table for testing item(s).)				
	(3)	其他測試項目請見下一頁。 (Please refer to next pages for the other item(s).)				
測試結果(Test Results) : 結 論(Conclusion) :	(1)	請參閱下一頁 (Please refer to following pages.) 根據客戶所提供的樣品,其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863之限值要求。 (Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)				
	(2)	根據客戶所提供的樣品,其測試結果符合美國毒管法(TSCA) 第 6(h) 章節,持久性生物累積毒性物質 (PBTs)之限值要求。 (Based on the performed tests on submitted sample(s), the test result(s) comply with the limits as set by Persistent, Bioaccumulative, Toxic (PBT) Chemicals under Toxic Substances Control Act (TSCA) Section 6(h).)				
和 Chang 報告簽署人/强伯睿博士/部 經理 <b>SGS</b> Ray Chang, Ph.D./ Department Manager Signed for and on behave						

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#### 測試部位敘述 (Test Part Description)

No.1 : 銀白色金屬 (SILVER WHITE METAL)

#### 測試結果 (Test Results)

測試項目	測試方法	單位	MDL	結果	限值
(Test Items)	(Method)	(Unit)		(Result)	(Limit)
				No.1	
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013,以感應耦合電漿	mg/kg	2	n.d.	100
	發射光譜儀分析。(With reference to IEC				
	62321-5: 2013, analysis was performed				
	by ICP-OES.)				
鉛 (Pb) (Lead (Pb))	參考IEC 62321-5: 2013,以感應耦合電漿	mg/kg	2	n.d.	1000
	發射光譜儀分析。(With reference to IEC				
	62321-5: 2013, analysis was performed				
	by ICP-OES.)				
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013+ AMD1: 2017,	mg/kg	2	n.d.	1000
	以感應耦合電漿發射光譜儀分析。(With				
	reference to IEC 62321-4: 2013 + AMD1:				
	2017, analysis was performed by ICP-				
	OES.)				
六價鉻 (Hexavalent Chromium) Cr(VI)	參考IEC 62321-7-1: 2015 · 以紫外光-可見	µg/cm²	0.1	n.d.	-
(#2)	光分光光度計分析。(With reference to				
	IEC 62321-7-1: 2015, analysis was				
	performed by UV-VIS.)				
一溴聯苯 (Monobromobiphenyl)		mg/kg	5	n.d.	-
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	n.d.	-
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	n.d.	-
四溴聯苯 (Tetrabromobiphenyl)	● 參考IEC 62321-6: 2015 · 以氣相層析儀/質	mg/kg	5	n.d.	-
五溴聯苯 (Pentabromobiphenyl)	譜儀分析。(With reference to IEC 62321-	mg/kg	5	n.d.	-
六溴聯苯 (Hexabromobiphenyl)	6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	n.d.	-
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	n.d.	-
九溴聯苯 (Nonabromobiphenyl)		mg/kg	5	n.d.	-
十溴聯苯 (Decabromobiphenyl)		mg/kg	5	n.d.	-
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	n.d.	1000

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測試項目	測試方法	單位	MDL	結果	限值
(Test Items)	(Method)	(Unit)		(Result)	(Limit)
		(1)		No.1	
一溴聯苯醚 (Monobromodiphenyl ether)		mg/kg	5	n.d.	-
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	n.d.	-
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	n.d.	-
四溴聯苯醚 (Tetrabromodiphenyl ether)	● 參考IEC 62321-6: 2015 · 以氣相層析儀/質	mg/kg	5	n.d.	-
五溴聯苯醚 (Pentabromodiphenyl ether)	·譜儀分析。(With reference to IEC 62321-	mg/kg	5	n.d.	-
六溴聯苯醚 (Hexabromodiphenyl ether)	6: 2015, analysis was performed by	mg/kg	5	n.d.	-
七溴聯苯醚 (Heptabromodiphenyl ether)	GC/MS.)	mg/kg	5	n.d.	-
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.	-
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.	-
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.	-
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.	1000
多氯聯苯 (PCBs) (Polychlorinated		mg/kg	0.5	n.d.	-
biphenyls (PCBs))	參考US EPA 3550C: 2007 · 以氣相層析儀/				
多氯奈 (PCNs) (Polychlorinated	質譜儀分析。(With reference to US EPA	mg/kg	5	n.d.	-
naphthalene (PCNs))	3550C: 2007, analysis was performed by				
多氯三聯苯 (PCTs) (Polychlorinated	GC/MS.)	mg/kg	0.5	n.d.	-
terphenyls (PCTs))					
短鏈氯化石蠟(C10-C13) (SCCP) (Short	參考ISO 18219-1: 2021 · 以氣相層析儀/	mg/kg	50	n.d.	-
Chain Chlorinated Paraffins(C10-C13)	質譜儀分析。(With reference to ISO				
(SCCP)) (CAS No.: 85535-84-8)	18219-1: 2021, analysis was performed				
	by GC/MS.)				
氟 (F) (Fluorine (F)) (CAS No.: 14762-94-		mg/kg	50	n.d.	_
8)					
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-		mg/kg	50	n.d.	-
15-1)	參考BS EN 14582: 2016,以離子層析儀分 析。(With reference to BS EN 14582:	0 0			
溴 (Br) (Bromine (Br)) (CAS No.: 10097-		mg/kg	50	n.d.	-
32-2)	2016, analysis was performed by IC.)	5 5			
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)	1	mg/kg	50	n.d.	-
		J. J			

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
三丁基錫 (TBT) (Tributyl tin (TBT))	參考ISO 17353: 2004 · 以氣相層析儀/火	mg/kg	0.03	n.d.	-
三苯基錫 (TPT) (Triphenyl tin (TPT))	焰光度偵測器分析。(With reference to	mg/kg	0.03	n.d.	-
二丁基錫 (DBT) (Dibutyl tin (DBT))	ISO 17353: 2004, analysis was	mg/kg	0.03	n.d.	-
二辛基錫 (DOT) (Dioctyl tin (DOT))	performed by GC/FPD.)	mg/kg	0.03	n.d.	-
氧化雙三丁基錫 (TBTO) (Bis(tributyltin) oxide (TBTO)) (CAS No.: 56-35-9)	由三丁基錫測試結果計算得之。 (Calculated from the result of Tributyl Tin (TBT).)	mg/kg	0.03	n.d.	-
<ul> <li>六溴環十二烷及所有主要被辨別出的異構物(HBCDD) (α-HBCDD, β-HBCDD, γ-HBCDD) (Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD)) (CAS No.: 25637-99-4, 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))</li> </ul>	參考IEC 62321: 2008 · 以氣相層析儀/質譜 儀分析。(With reference to IEC 62321: 2008, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
聚氯乙烯 (Polyvinyl chloride) (PVC)	參考ASTM E1252: 2021 · 以傅立葉轉換紅 外線光譜儀及焰色法分析。(With reference to ASTM E1252: 2021, analysis was performed by FT-IR and Flame Test.)	**	-	Negative	-
銻 (Sb) (Antimony (Sb)) (CAS No.: 7440- 36-0)	參考US EPA 3052: 1996 · 以感應耦合電漿 發射光譜儀分析。(With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	-
三氧化二銻(Sb <sub>2</sub> O <sub>3</sub> ) (Antimony trioxide (Sb <sub>2</sub> O <sub>3</sub> )) (CAS No.: 1309-64-4)	由銻結果計算得之。(Calculated from the result of Antimony.)	mg/kg	2▲	n.d.	-
鈹 (Be) (Beryllium (Be)) (CAS No.: 7440- 41-7)	參考US EPA 3052: 1996 · 以感應耦合電漿 發射光譜儀分析。(With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	-
砷 (As) (Arsenic (As)) (CAS No.: 7440- 38-2)	參考US EPA 3052: 1996 · 以感應耦合電漿 發射光譜儀分析。(With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	-

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
紅磷 (Red Phosphorus)	以熱裂解-氣相層析儀/質譜儀分析。 (Analysis was performed by Pyrolyzer- GC/MS.)	**	-	No.1 Negative	-
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di- (2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二異癸酯 (DIDP) (Diisodecyl phthalate (DIDP)) (CAS No.: 26761-40- 0, 68515-49-1)		mg/kg	50	n.d.	-
鄰苯二甲酸二異壬酯 (DINP) (Diisononyl phthalate (DINP)) (CAS No.: 28553-12- 0, 68515-48-0)	參考IEC 62321-8: 2017 · 以氣相層析儀/質	mg/kg	50	n.d.	-
鄰苯二甲酸二正辛酯 (DNOP) (Di-n-octyl phthalate (DNOP)) (CAS No.: 117-84-0)	譜儀分析。(With reference to IEC 62321- 8: 2017, analysis was performed by	mg/kg	50	n.d.	-
鄰苯二甲酸二正戊酯 (DNPP) (Di-n- pentyl phthalate (DNPP)) (CAS No.: 131-18-0)	GC/MS.)	mg/kg	50	n.d.	-
鄰苯二甲酸二正己酯 (DNHP) (Di-n-hexyl phthalate (DNHP)) (CAS No.: 84-75-3)		mg/kg	50	n.d.	-
鄰苯二甲酸二(2-甲氧基乙基)酯 (DMEP) (Bis(2-methoxyethyl) phthalate (DMEP)) (CAS No.: 117-82-8)		mg/kg	50	n.d.	-
鄰苯二甲酸二(C7-11支鏈與直鏈)烷基酯 (DHNUP) (1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)) (CAS No.: 68515- 42-4)		mg/kg	50	n.d.	-

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測試項目	測試方法	單位	MDL	結果	限值
(Test Items)	(Method)	(Unit)		(Result)	(Limit)
				No.1	
鄰苯二甲酸二 (C6-8支鏈)烷基酯,富C7	參考IEC 62321-8: 2017 · 以氣相層析儀/質	mg/kg	50	n.d.	-
(DIHP) (1,2-Benzenedicarboxylic acid,	譜儀分析。(With reference to IEC 62321-				
di-C6-8-branched alkyl esters, C7-rich	8: 2017, analysis was performed by				
(DIHP)) (CAS No.: 71888-89-6)	GC/MS.)				
十溴聯苯醚 (DecaBDE) (Decabromodiphenyl	參考US EPA 3550C: 2007,以氣相層析儀/	mg/kg	5	n.d.	Prohibited
ether (DecaBDE)) (CAS No.: 1163-19-5)	質譜儀分析。(With reference to US EPA				/ N/A(*3)
	3550C: 2007, analysis was performed by				
	GC/MS.)				
異丙基化磷酸三苯酯 (PIP 3:1) (Phenol,	參考US EPA 3550C: 2007 · 以氣相層析儀/	mg/kg	5	n.d.	Prohibited
isopropylated, phosphate (3:1) (PIP	質譜儀分析。(With reference to US EPA				/ N/A(*1)
3:1)) (CAS No.: 68937-41-7)	3550C: 2007, analysis was performed by				
	GC/MS.)				
2,4,6-三叔丁基酚 (2,4,6-TTBP) (2,4,6-	參考US EPA 3550C: 2007 · 以氣相層析儀/	mg/kg	5	n.d.	3000 /
Tris(tert-butyl)phenol (2,4,6-TTBP))	質譜儀分析。(With reference to US EPA				N/A(*2)
(CAS No.: 732-26-3)	3550C: 2007, analysis was performed by				
	GC/MS.)				
五氯苯硫酚 (PCTP)	參考US EPA 3550C: 2007 · 以氣相層析儀/	mg/kg	5	n.d.	10000
(Pentachlorothiophenol (PCTP)) (CAS	質譜儀分析。(With reference to US EPA				
No.: 133-49-3)	3550C: 2007, analysis was performed by				
	GC/MS.)				
六氯丁二烯 (HCBD)	參考US EPA 3550C: 2007 · 以氣相層析儀/	mg/kg	5	n.d.	Prohibited
(Hexachlorobutadiene (HCBD)) (CAS	質譜儀分析。(With reference to US EPA				
No.: 87-68-3)	3550C: 2007, analysis was performed by				
	GC/MS.)				
全氟辛烷磺酸 (PFOS) (Perfluorooctane	參考CEN/TS 15968: 2010 · 以液相層析串	mg/kg	0.01	n.d.	-
sulfonate (PFOS)) (CAS No.: 1763-23-1)	聯質譜儀分析。(With reference to				
	CEN/TS 15968: 2010, analysis was				
	performed by LC/MS/MS.)				
全氟辛基磺酸鉀 (PFOS-K) (Potassium	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
Perfluorooctanesulfonate (PFOS-K))	(Calculated from the result of PFOS.)				
(CAS No.: 2795-39-3)					

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SGS Taiwan Ltd. 台灣檢驗科技股份有限公司



### **Test Report**

號碼(No.): EKR23A01278

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MITSUI HIGH-TEC INC.

10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	限值 (Limit)
				No.1	
全氟辛基磺酸鋰 (PFOS-Li)	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
(Perfluorooctanesulfonic acid, lithium	(Calculated from the result of PFOS.)				
salt (PFOS-Li)) (CAS No.: 29457-72-5)					
全氟辛基磺酸銨 (PFOS-NH4)	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
(Perfluorooctanesulfonic acid,	(Calculated from the result of PFOS.)				
ammonium salt (PFOS-NH4)) (CAS No.:					
29081-56-9)					
全氟辛基磺酸二乙醇銨 (PFOS-NH(OH)2)	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
(Perfluorooctane sulfonate	(Calculated from the result of PFOS.)				
diethanolamine salt (PFOS-NH(OH)2))					
(CAS No.: 70225-14-8)					
	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
(Perfluorooctanesulfonic	(Calculated from the result of PFOS.)				
acid,tetraethylammonium salt (PFOS-					
N(C2H5)4)) (CAS No.: 56773-42-3)					
全氟辛基磺酸二癸二甲基銨 (PFOS-DDA)	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
(N-decyl-N,N-dimethyldecan-1-	(Calculated from the result of PFOS.)				
aminium 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-					
heptadecafluorooctane-1-sulfonate					
(PFOS-DDA)) (CAS No.: 251099-16-8)					
全氟辛基磺醯氟 (POSF) (Perfluorooctane		mg/kg	0.01	n.d.	-
sulfonyl fluoride (POSF)) (CAS No.: 307-	(Calculated from the result of PFOS.)				
35-7)					
全氟辛基磺酸鎂 (PFOS-Mg)	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
(Perfluorooctanesulfonic acid,	(Calculated from the result of PFOS.)				
magnesium salt (PFOS-Mg)) (CAS No.:					
91036-71-4)					
全氟辛基磺酸鈉 (PFOS-Na)	由全氟辛烷磺酸測試結果計算得之。	mg/kg	0.01	n.d.	-
(Perfluorooctanesulfonic acid, sodium	(Calculated from the result of PFOS.)				
salt (PFOS-Na)) (CAS No.: 4021-47-0)					

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### **Test Report**

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MITSUI HIGH-TEC INC.

10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

測試項目	測試方法	單位	MDL	結果	限值
(Test Items)	(Method)	(Unit)		(Result) No.1	(Limit)
N-乙基全氟正辛磺醯胺 (EtFOSA) (N- ethylperfluoro-1-octanesulfonamide (EtFOSA)) (CAS No.: 4151-50-2)	參考CEN/TS 15968: 2010 · 以液相層析串 聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	-
N-甲基全氟正辛磺醯胺 (N-Me-FOSA) (N-Methyl-Perfluoroctanesulfonamide (N-Me-FOSA)) (CAS No.: 31506-32-8)	參考CEN/TS 15968: 2010 · 以液相層析串 聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	_
N-乙基全氟辛基磺醯胺乙醇 (N-Et-FOSE alcohol) (N-Ethyl- Perfluoroctanesulfonamidoethanol (N- Et-FOSE alcohol)) (CAS No.: 1691-99-2)	參考CEN/TS 15968: 2010 · 以液相層析串 聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	-
N-甲基全氟辛基磺醯胺乙醇 (N-Me-FOSE alcohol) (N-Methyl- Perfluoroctanesulfonamidoethanol (N- Me-FOSE alcohol)) (CAS No.: 24448- 09-7)	參考CEN/TS 15968: 2010 · 以液相層析串 聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	-
全氟辛基磺醯胺 (PFOSA) (Perfluoroctanesulfonamide (PFOSA)) (CAS No.: 754-91-6)	參考CEN/TS 15968: 2010 · 以液相層析串 聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	-
全氟辛酸 (PFOA) (Perfluorooctanoic acid (PFOA)) (CAS No.: 335-67-1)	參考CEN/TS 15968: 2010 · 以液相層析串 聯質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by LC/MS/MS.)	mg/kg	0.01	n.d.	-
全氟辛酸鈉 (PFOA-Na) (Sodium perfluorooctanoate (PFOA-Na)) (CAS No.: 335-95-5)	由全氟辛酸測試結果計算得之。 (Calculated from the result of PFOA.)	mg/kg	0.01	n.d.	-
全氟辛酸鉀 (PFOA-K) (Potassium perfluorooctanoate (PFOA-K)) (CAS No.: 2395-00-8)	由全氟辛酸測試結果計算得之。 (Calculated from the result of PFOA.)	mg/kg	0.01	n.d.	-

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### **Test Report**

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MITSUI HIGH-TEC INC.

10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

測試項目	測試方法	單位	MDL	結果	限值
(Test Items)	(Method)	(Unit)		(Result)	(Limit)
				No.1	
全氟辛酸銀 (PFOA-Ag) (Silver	由全氟辛酸測試結果計算得之。	mg/kg	0.01	n.d.	-
perfluorooctanote (PFOA-Ag)) (CAS	(Calculated from the result of PFOA.)				
No.: 335-93-3)					
全氟辛氟 (PFOA-F) (Perfluorooctanoyl	由全氟辛酸測試結果計算得之。	mg/kg	0.01	n.d.	-
fluoride (PFOA-F)) (CAS No.: 335-66-0)	(Calculated from the result of PFOA.)				
全氟辛酸銨 (APFO) (Ammonium	由全氟辛酸測試結果計算得之。	mg/kg	0.01	n.d.	-
pentadecafluorooctanoate (APFO))	(Calculated from the result of PFOA.)				
(CAS No.: 3825-26-1)					
1H,1H,2H,2H-全氟癸磺酸 (8:2 FTS)	參考CEN/TS 15968: 2010,以液相層析串	mg/kg	0.01	n.d.	-
(1H,1H,2H,2H-Perfluorodecanesulfonic	聯質譜儀分析。(With reference to				
acid (8:2 FTS)) (CAS No.: 39108-34-4)	CEN/TS 15968: 2010, analysis was				
	performed by LC/MS/MS.)				
全氟辛酸甲酯 (Me-PFOA) (Methyl	參考CEN/TS 15968: 2010 · 以氣相層析儀/	mg/kg	0.1	n.d.	-
perfluorooctanoate (Me-PFOA)) (CAS	質譜儀分析。(With reference to CEN/TS				
No.: 376-27-2)	15968: 2010, analysis was performed by				
	GC/MS.)				
全氟辛酸乙酯 (Et-PFOA) (Ethyl	參考CEN/TS 15968: 2010 · 以氣相層析儀/	mg/kg	0.1	n.d.	-
perfluorooctanoate (Et-PFOA)) (CAS	質譜儀分析。(With reference to CEN/TS				
No.: 3108-24-5)	15968: 2010, analysis was performed by				
	GC/MS.)				
1H,1H,2H,2H-全氟-1-癸醇 (8:2 FTOH)	參考CEN/TS 15968: 2010,以氣相層析儀/	mg/kg	0.1	n.d.	-
• • • • • • •	質譜儀分析。(With reference to CEN/TS				
FTOH)) (CAS No.: 678-39-7)	15968: 2010, analysis was performed by				
	GC/MS.)				
1H,1H,2H,2H-全氟癸基丙烯酸酯 (8:2	參考CEN/TS 15968: 2010 · 以氣相層析儀/	mg/kg	0.1	n.d.	-
FTA) (1H,1H,2H,2H-Perfluorodecyl	質譜儀分析。(With reference to CEN/TS				
acrylate (8:2 FTA)) (CAS No.: 27905-45-	15968: 2010, analysis was performed by				
9)		4	0.1		
	參考CEN/TS 15968: 2010 · 以氣相層析儀/	mg/kg	0.1	n.d.	-
FTMA) (1H,1H,2H,2H-Perfluorodecyl	質譜儀分析。(With reference to CEN/TS				
methacrylate (8:2 FTMA)) (CAS No.:	15968: 2010, analysis was performed by				
1996-88-9)	GC/MS.)				

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#### Test Report

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MITSUI HIGH-TEC INC.

10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
全氟辛基碘烷 (PFOI) (Perfluoro-1- iodooctane (PFOI)) (CAS No.: 507-63-1)	參考CEN/TS 15968: 2010 · 以氣相層析儀/ 質譜儀分析。(With reference to CEN/TS 15968: 2010, analysis was performed by GC/MS.)	mg/kg	0.1	n.d.	-

#### 備註(Note):

- 1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
- 2. MDL = Method Detection Limit (方法偵測極限值)
- 3. n.d. = Not Detected (未檢出); 小於MDL / Less than MDL
- 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. (#2) =

a. 當六價鉻結果大於0.13 µg/cm<sup>2</sup> · 表示樣品表層含有六價鉻。(The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm<sup>2</sup>. The sample coating is considered to contain Cr(VI).)

b. 當六價鉻結果為n.d. (濃度小於0.10 µg/cm<sup>2</sup>) · 表示表層不含六價鉻。(The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 µg/cm<sup>2</sup>). The coating is considered a non-Cr(VI) based coating)

c. 當六價鉻結果介於 0.10 及 0.13 µg/cm<sup>2</sup> 時,無法確定塗層是否含有六價鉻。(The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive - unavoidable coating variations may influence the determination.)

8. ▲: MDL是針對元素/測試化合物之評估。(The MDL was evaluated for element / tested substance.)

AX	А	F
氧化雙三丁基錫 (Bis(tributyltin)oxide) (TBTO)	三丁基錫 (Tributyl Tin) (TBT)	1.0276
三氧化二銻 (Antimony trioxide) (Sb2O3)	銻 (Antimony)	1.1971

換算公式 (Conversion Formula): AX = A × F

參數換算表 (Parameter Conversion Table):

https://eecloud.sgs.com/Region\_TW/DocDownload.aspx?name=Others

9. 除非另有說明·參照ILAC-G8:09/2019·採用簡單二元(w=0)允收規則進行符合性判定;根據此規則·符合性結果之判 定係以測試結果與限值做比較。(Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)

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MITSUI HIGH-TEC INC.

10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

- 10. 詳細法規說明請點以下網址連結。(Detail explanation of the regulation is available at the following link.) https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals-under
- 11. N/A(\*1): 若產品/成品為以下,則不適用 (The submitted sample is exempted from the regulated scope if it is anyone of the following):
  - 航空或軍事用液壓油 (Hydraulic fluids for aviation or military)
  - 潤滑劑和油脂 (Lubricants and grease)
  - 汽車和航空航天器的新零件和替换零件 (New and replacement parts for motor and aerospace vehicles)
  - 在封閉系統中製造氰基丙烯酸酯粘合劑 (Manufacture of cyanoacrylate adhesives in closed systems)
  - 火車和船舶應用的專用發動機空氣濾清器 (Specialized engine air filters for locomotive and marine applications)
  - 從含PIP(3:1)的產品或成品中回收的塑料 (Plastic for recycling from PIP (3:1)-containing products or articles)
  - 從包含PIP(3:1)的產品或成品中回收的塑料製成的成品或成品 (Finished products or articles made of plastic recycled from PIP (3:1)-containing products or articles)
  - 於2024/10/31前加工和分銷含PIP(3:1)的成品 (Processing and distribution in commerce of PIP (3:1)-containing articles, before October 31, 2024)
- 12. N/A(\*2): 若產品為非作為潤滑油中添加劑,則不適用。(The submitted sample is exempted from the regulated scope if it is not oil and lubricant additives.)
- 13. N/A(\*3): 若產品/成品為以下,則不適用 (The submitted sample is exempted from the regulated scope if it is anyone of the following):

從產品或成品進行加工和分銷含十溴二苯醚回收的塑料或者由這種再生塑料製成的含十溴二苯醚的產品或成品。 (Exempts processing and distribution for recycling of DecaBDE-containing plastic from products or articles and DecaBDE-containing products or articles made from such recycled plastic.)

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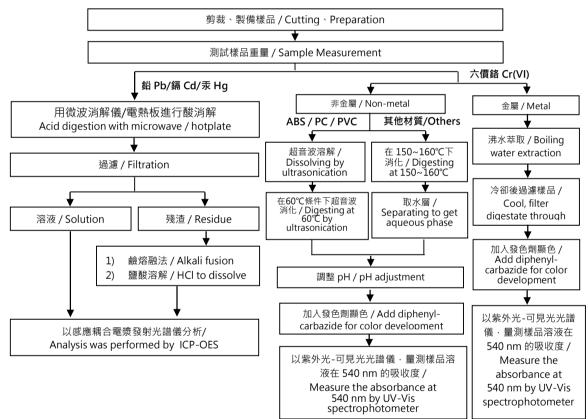
MITSUI HIGH-TEC INC.

10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

#### 重金屬流程圖 / Analytical flow chart of Heavy Metal

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. (  $Cr^{6+}$  test method excluded )



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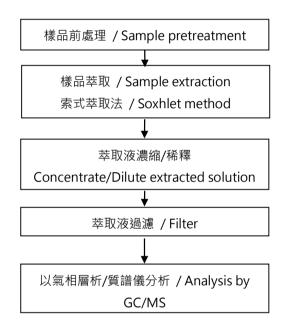
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MITSUI HIGH-TEC INC. 10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

#### 多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART



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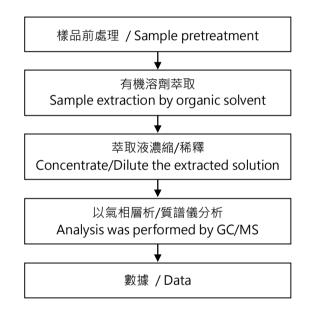
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MITSUI HIGH-TEC INC. 10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

#### 分析流程圖 / Analytical flow chart

【適用於:多氯聯苯、多氯奈、多氯三聯苯、滅蟻靈、氯化石蠟、DBBT】

\*Apply to: PCBs, PCNs, PCTs, Mirex, Chlorinated Paraffins, DBBT



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#### 

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

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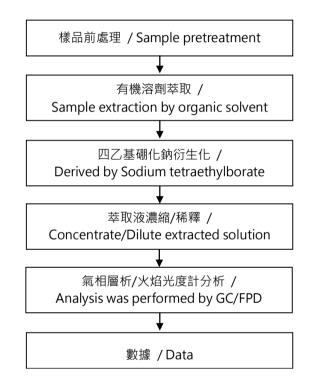
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#### 有機錫分析流程圖 / Analytical flow chart - Organic-Tin



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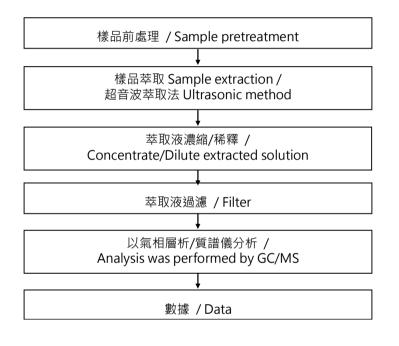
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#### 六溴環十二烷分析流程圖 / Analytical flow chart - HBCDD



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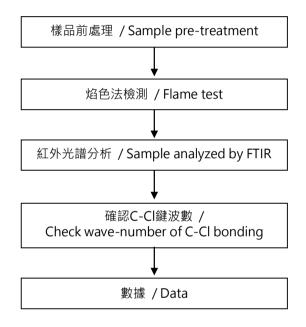
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#### 聚氯乙烯物質判定分析流程圖 / Analysis flow chart - PVC



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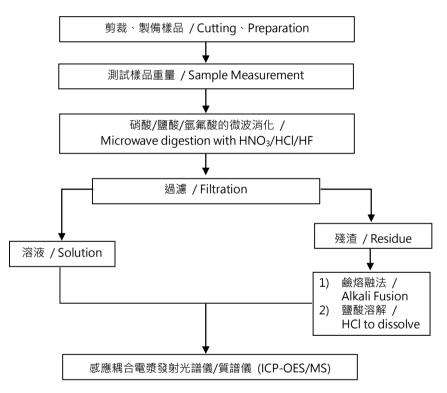
MITSUI HIGH-TEC INC. 10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

元素(含重金屬)分析流程圖 / Analytical flow chart of Elements (Heavy metal included)

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.

【參考方法/Reference method: US EPA 3051、US EPA 3052】



\* US EPA 3051 方法未添加氫氟酸 / US EPA 3051 method does not add HF.

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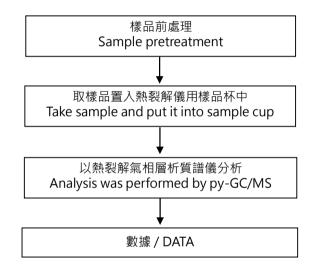
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10-1, KOMINE 2-CHOME, YAHATANISHI-KU KITAKYUSHU, 807-8588, JAPAN

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



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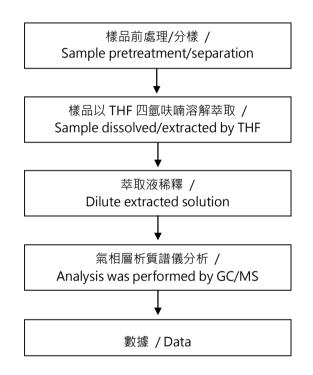
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#### 可塑劑分析流程圖 / Analytical flow chart of phthalate content

【測試方法/Test method: IEC 62321-8】



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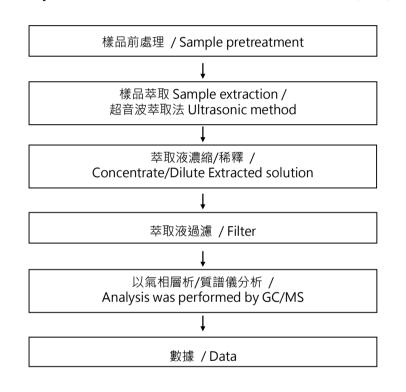
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#### 持久性生物累積毒性物質 (PBTs) 分析流程圖 / Analytical flow chart - Persistent, Bioaccumulative, Toxic (PBTs)



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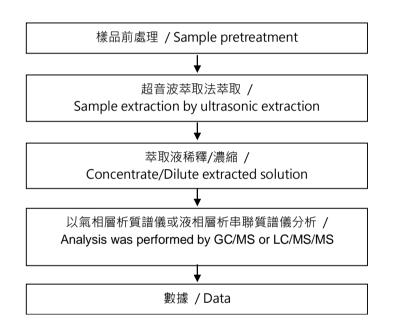
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## 全氟化合物(包含全氟辛酸/全氟辛烷磺酸/其相關化合物等等)分析流程圖 / Analytical flow chart – PFAS (including PFOA/PFOS/its related compound, etc.)



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> \*照片中如有箭頭標示,則表示為實際檢測之樣品/部位.\* (The tested sample / part is marked by an arrow if it's shown on the photo.)



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