

測試報告 Test Report

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名佳利金屬工業股份有限公司

MINCHALI METAL INDUSTRY CO., LTD

中壢市北園路11號

11, PEI YUAN ROAD, CHUNG LI CITY, TAIWAN

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) : 磷青銅
 樣品型號(Style/Item No.) : C5191 (PBP)
 收件日期(Sample Receiving Date) : 2008/05/09
 測試期間(Testing Period) : 2008/05/09 TO 2008/05/16

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 測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修定指令要求。 (In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).
 測試方法(Test Method) : (1) 參考IEC 62321/2nd CDV (111/95/CDV) - Clause 9方法，用感應耦合電漿原子發射光譜儀檢測鎘含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 9. Determination of Cadmium by ICP-AES.
 (2) 參考IEC 62321/2nd CDV (111/95/CDV) - Clause 9方法，用感應耦合電漿原子發射光譜儀檢測鉛含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 9. Determination of Lead by ICP-AES.
 (3) 參考IEC 62321/2nd CDV (111/95/CDV) - Clause 7方法，用感應耦合電漿原子發射光譜儀檢測汞含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Clause 7. Determination of Mercury by ICP-AES.
 (4) 針對金屬材質之樣品，參考IEC 62321/2nd CDV (111/95/CDV) - Annex B方法檢測，用Spot test / boiling water extraction方法檢測六價鉻含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Annex B. Determination of Hexavalent Chromium for metallic samples by Spot test / boiling water extraction Method.
 (5) 參考IEC 62321/2nd CDV (111/95/CDV) - Annex A方法，以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / With reference to IEC 62321/2nd CDV (111/95/CDV) - Annex A. Determination of PBB and PBDE by GC/MS.
 測試結果(Test Results) : 請見下一頁 (Please refer to next pages).
 結論(Conclusion) : 根據客戶所提供樣品的測試結果，符合RoHS(2002/95/EC)及其修定指令之要求 (Based on the performed tests on submitted samples, the test results are compliant with the limits of RoHS Directive 2002/95/EC and its subsequent amendments).

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





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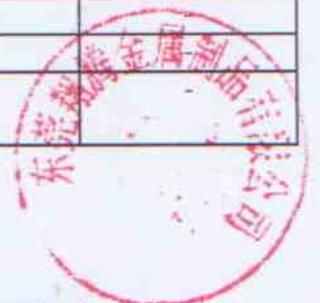
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測試結果(Test Results) 單位(Unit): mg/kg

測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)	方法偵測 極限值 (MDL)	'RoHS 限值 (Limit)
		No.1		
鎘 / Cadmium (Cd)	(1)	n.d.	2	100
鉛 / Lead (Pb)	(2)	18	2	1000
汞 / Mercury (Hg)	(3)	n.d.	2	1000
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 5	#
多溴聯苯總和 / Sum of PBBs		n.d.	-	1000
一溴聯苯 / Monobromobiphenyl		n.d.	5	-
二溴聯苯 / Dibromobiphenyl		n.d.	5	-
三溴聯苯 / Tribromobiphenyl		n.d.	5	-
四溴聯苯 / Tetrabromobiphenyl		n.d.	5	-
五溴聯苯 / Pentabromobiphenyl		n.d.	5	-
六溴聯苯 / Hexabromobiphenyl		n.d.	5	-
七溴聯苯 / Heptabromobiphenyl		n.d.	5	-
八溴聯苯 / Octabromobiphenyl		n.d.	5	-
九溴聯苯 / Nonabromobiphenyl		n.d.	5	-
十溴聯苯 / Decabromobiphenyl		n.d.	5	-
多溴聯苯醚總和 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)	(5)	n.d.	-	1000
一溴聯苯醚 / Monobromodiphenyl ether		n.d.	5	-
二溴聯苯醚 / Dibromodiphenyl ether		n.d.	5	-
三溴聯苯醚 / Tribromodiphenyl ether		n.d.	5	-
四溴聯苯醚 / Tetrabromodiphenyl ether		n.d.	5	-
五溴聯苯醚 / Pentabromodiphenyl ether		n.d.	5	-
六溴聯苯醚 / Hexabromodiphenyl ether		n.d.	5	-
七溴聯苯醚 / Heptabromodiphenyl ether		n.d.	5	-
八溴聯苯醚 / Octabromodiphenyl ether		n.d.	5	-
九溴聯苯醚 / Nonabromodiphenyl ether		n.d.	5	-
十溴聯苯醚 / Decabromodiphenyl ether		n.d.	5	-
多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)		n.d.	-	-



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測試部位描述 (TEST PART DESCRIPTION):

NO.1 : 銅色金屬 (COPPER COLORED METAL)

備註(Note):

1. mg/kg = ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. 根據2005年10月13日歐盟會議公佈2005/717/EC, 修訂2002/95/EC內容, 通過解除高分子材質中十溴聯苯醚之使用限制. (According to 2005/717/EC DecaBDE is exempt.)
5. Spot-test:
 - Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),
 - Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);
 - The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.
 - (當該測項無法確認時, 測試樣品可藉由boiling-water-extraction測試方法進一步確認)Boiling-water-extraction:
 - Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),
 - Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);
 - the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.
 - 該溶液濃度 \geq 0.02 mg/kg with 50 cm² (sample surface area)
6. # = Positive indicates the presence of Cr(VI) on the tested areas and result be regarded as not comply with RoHS requirement. (Positive表示測試區域之六價鉻不符合RoHS要求)
Negative indicates the absence of Cr(VI) on the tested areas and result be regarded as comply with RoHS requirement. (Negative表示測試區域之六價鉻符合RoHS要求)
7. "-" = Not Regulated (無規格值)



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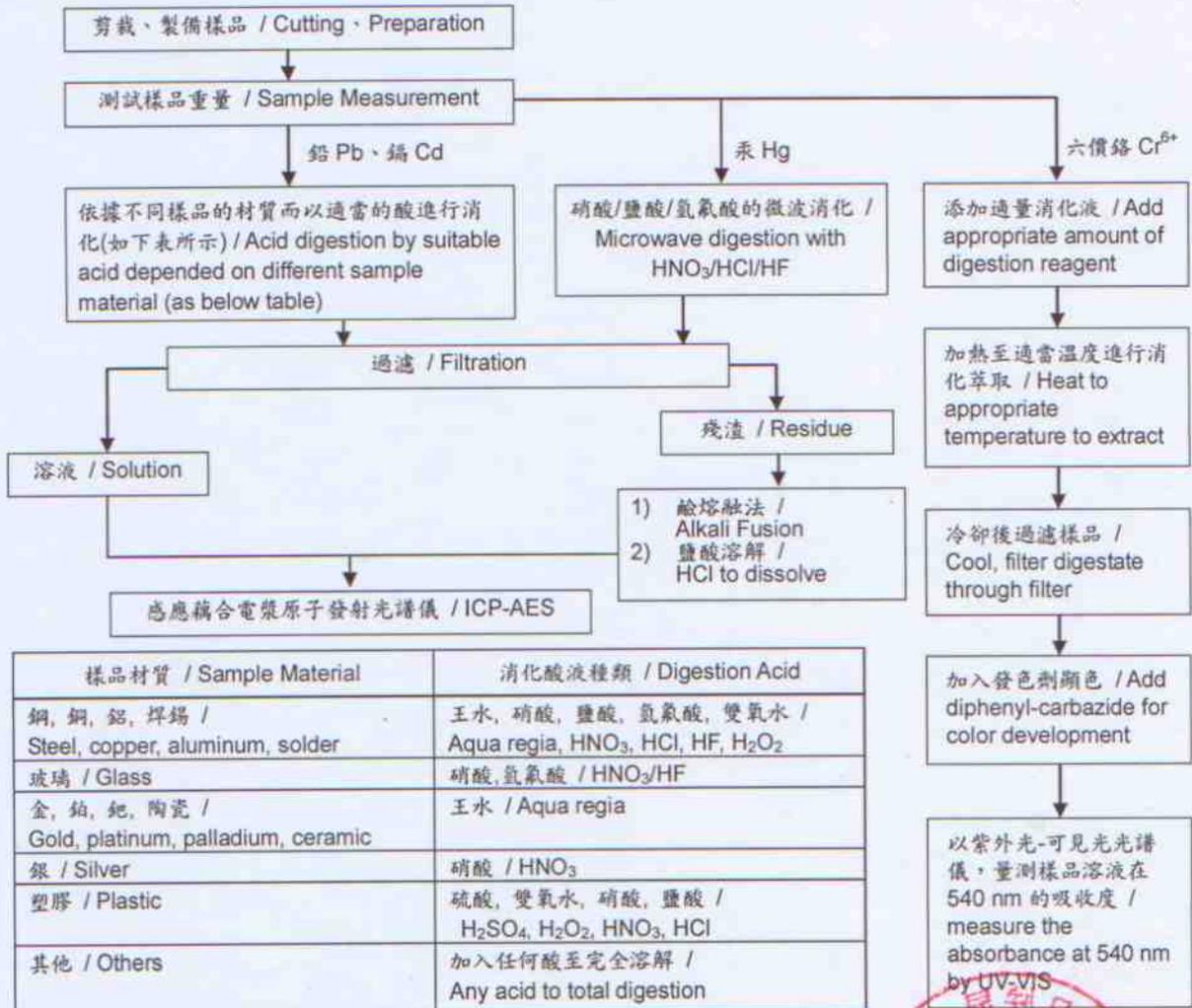
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- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) 測試人員：楊登偉 / Name of the person who made measurement: Climbgreat Yang
- 3) 測試負責人：張啓興 / Name of the person in charge of measurement: Troy Chang



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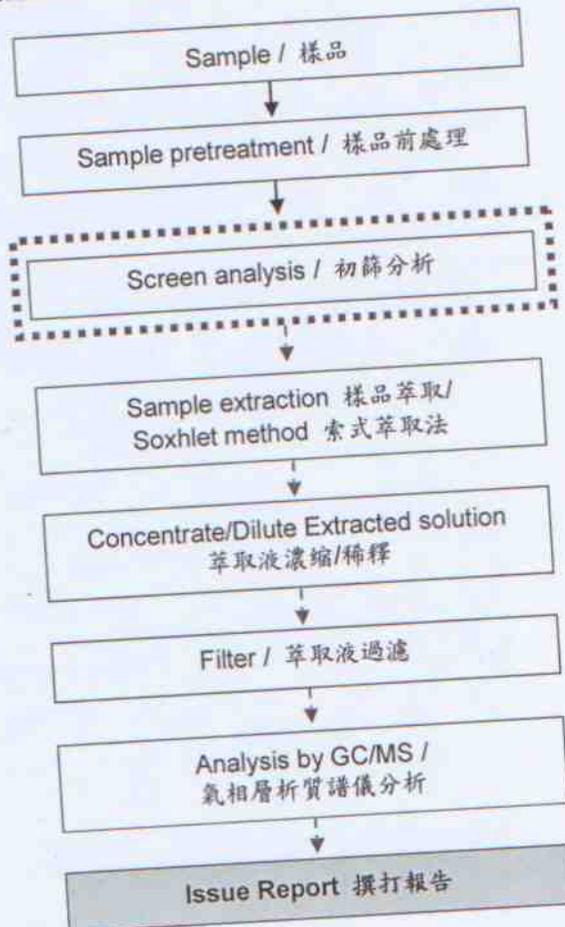


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多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

- 1) 測試人員: 翁賜彬 / Name of the person who made measurement: Roman Wong
- 2) 測試負責人: 陳新智 / Name of the person in charge of measurement: Shinjyh Chen

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 - - - →



測試報告 Test Report

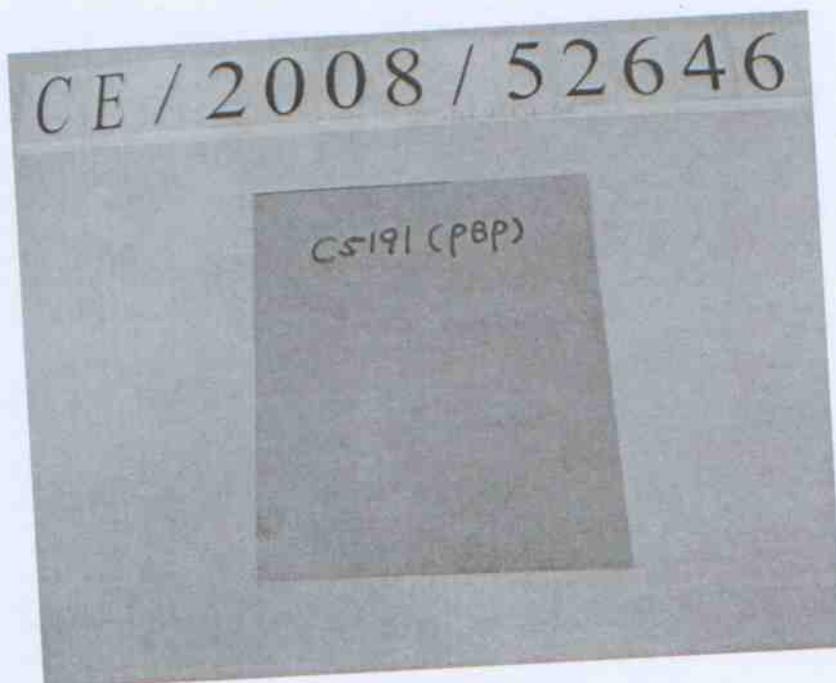
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** 報告結尾 **

