

## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 1 of 8

國巨股份有限公司

YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, 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) : THIN FILM CHIP RESISTOR  
樣品型號(Style/Item No.) : RT/RJ0603 SERIES  
收件日期(Sample Receiving Date) : 2011/12/12  
測試期間(Testing Period) : 2011/12/12 TO 2012/01/05  
送樣廠商(Sample Submitted By) : 國巨股份有限公司 (YAGEO CORPORATION)

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

  
Ray Chang / Asst. Manager  
Signed for and on behalf of  
SGS Taiwan Limited



## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 2 of 8

國巨股份有限公司

YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, TAIWAN

### 測試結果(Test Results)

測試部位(PART NAME) NO.1 : 黑色/白色/銀色 THIN FILM CHIP RESISTOR (BLACK/WHITE/SILVER THIN FILM CHIP RESISTOR)

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, 用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, 用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	63.7
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 用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, 用UV-VIS檢測. / With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
<b>多溴聯苯總和 / Sum of PBBs</b>	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.		

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告結果僅對測試之樣品負責。本報告未經本公司書面許可, 不可部分複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 3 of 8

國巨股份有限公司

YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, TAIWAN

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
多溴聯苯醚總和 / Sum of PBDEs	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.		
銀 / Silver (Ag)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測銀含量。 / With reference to US EPA Method 3052 for Silver Content. Analysis was performed by ICP-AES.	2	12600
鋇 / Barium (Ba)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測鋇含量。 / With reference to US EPA Method 3052 for Barium Content. Analysis was performed by ICP-AES.	2	28
鈷 / Cobalt (Co)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測鈷含量。 / With reference to US EPA Method 3052 for Cobalt Content. Analysis was performed by ICP-AES.	2	18.7
鉻 / Chromium (Cr)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測鉻含量。 / With reference to US EPA Method 3050B for Chromium Content. Analysis was performed by ICP-AES.	2	957

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告結果僅對測試之樣品負責。本報告未經本公司書面許可, 不可部分複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 4 of 8

國巨股份有限公司

YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, TAIWAN

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
銅 / Copper (Cu)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測銅含量. / With reference to US EPA Method 3052 for Copper Content. Analysis was performed by ICP-AES.	2	867
鎂 / Magnesium (Mg)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測鎂含量. / With reference to US EPA Method 3052 for Magnesium Content. Analysis was performed by ICP-AES.	2	142
鎳 / Nickel (Ni)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測鎳含量. / With reference to US EPA Method 3052 for Nickel Content. Analysis was performed by ICP-AES.	2	50700
鈦 / Palladium (Pd)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測鈦含量. / With reference to US EPA 3052 for Palladium Content. Analysis was performed by ICP-AES.	2	61.8
錫 / Tin (Sn)	mg/kg	參考US EPA 3052方法, 用感應耦合電漿原子發射光譜儀檢測錫含量. / With reference to US EPA 3052 for Tin Content. Analysis was performed by ICP-AES.	2	25000

### 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)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明, 此報告結果僅對測試之樣品負責。本報告未經本公司書面許可, 不可部分複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 5 of 8

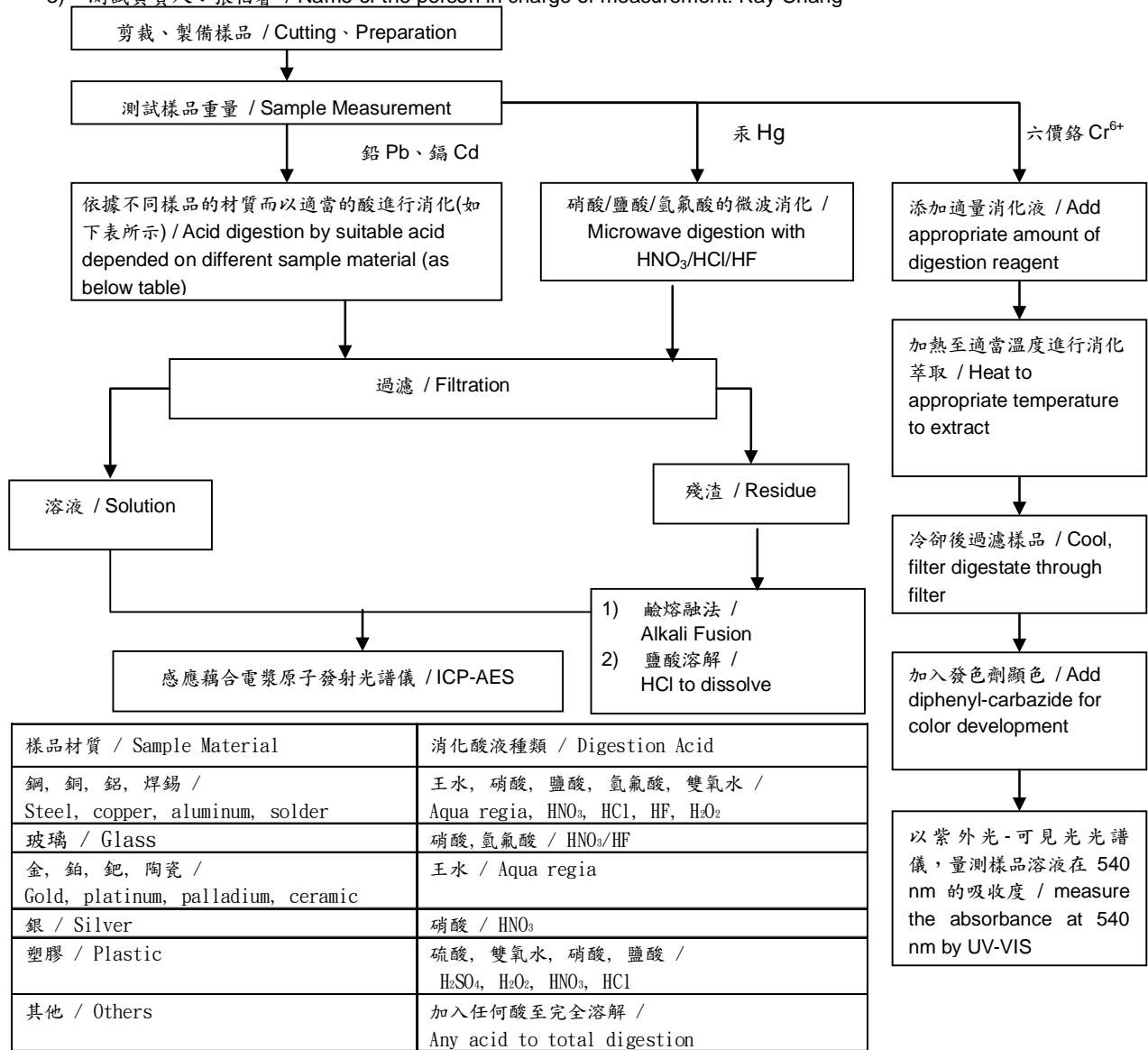
國巨股份有限公司

YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, TAIWAN

- 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：張俊雄 / Name of the person who made measurement: Alex Chang
- 3) 測試負責人：張伯睿 / Name of the person in charge of measurement: Ray Chang



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責。本報告未經本公司書面許可，不可部分複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 6 of 8

國巨股份有限公司

YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, TAIWAN

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

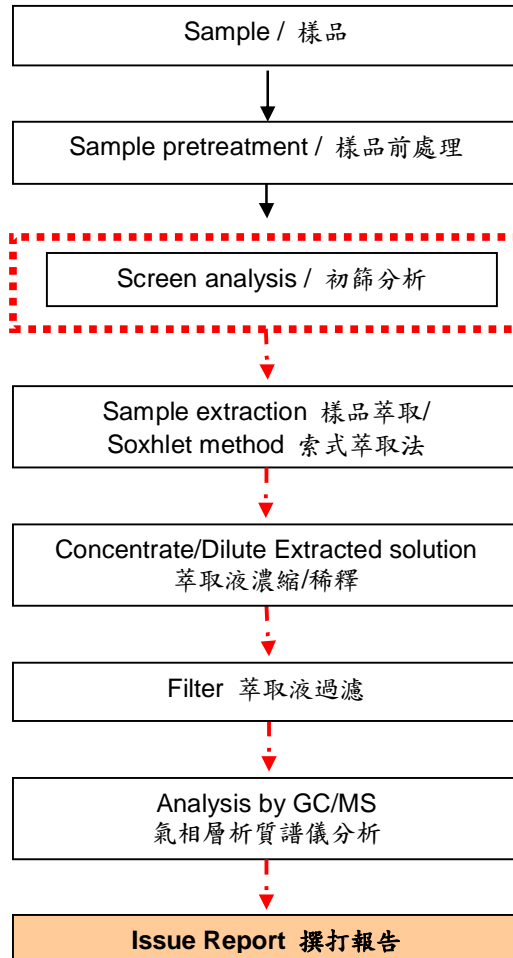
1)測試人員：曹嘉琪 / Name of the person who made measurement: Anson Tsao

2)測試負責人：張伯睿 / Name of the person in charge of measurement: Ray Chang

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 - - - - ->



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責。本報告未經本公司書面許可，不可部分複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 7 of 8

國巨股份有限公司

YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, TAIWAN

- 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：張俊雄 / Name of the person who made measurement: Alex Chang
- 3) 測試負責人：張伯睿 / Name of the person in charge of measurement: Ray 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, 鈱, 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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責。本報告未經本公司書面許可，不可部分複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

## 測試報告 Test Report

號碼(No.) : KA/2011/C0774 日期(Date) : 2012/01/05 頁數(Page) : 8 of 8

國巨股份有限公司

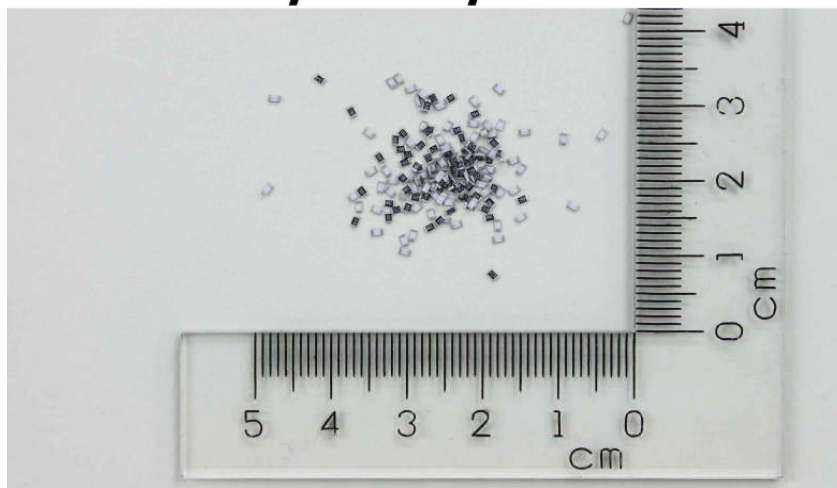
YAGEO CORPORATION (YAGEO/ PHYCOMP/ COMPOSTAR BRAND)

231-45 新北市新店區寶橋路233-1號3樓

3F, NO. 233-1, BAOQIAO RD., XINDIAN DIST., NEW TAIPEI CITY 23145, TAIWAN

\* 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.)

### KA/2011/C0774



\*\* 報告結尾(End of Report) \*\*

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責。本報告未經本公司書面許可，不可部分複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.