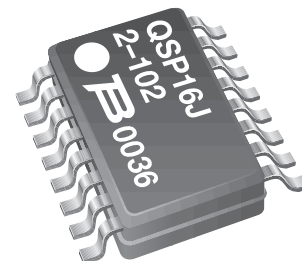


# Product Change Notification

## RESISTOR NETWORKS

Bourns Manufacturers Representatives  
Corporate Distributor Product Managers  
Americas Sales Team  
Asia Sales Team  
Europe Sales Team  
Bourns Internal  
Bourns Plant Managers



June, 2010

## **Thin Film on Silicon Resistor Networks Models 2NBS, 2QSP Mold Material Change**

Effective with manufacturing date code 1021 and later, the mold material on [2NBS and 2QSP models](#) has been changed to Sumitomo G600F.

Sumitomo G600F is a Green Halogen Free Compound (SGS report attached).

Reliability tests have been performed successfully on 2NBS and 2QSP Resistor Networks using the new compound and the results are available on request.

## Test Report

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SUMITOMO BAKELITE CO., LTD.

NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



The following sample(s) was/were submitted and identified by/on behalf of the client as :

Sample Description : EPOXY MOLDING COMPOUND  
Style/Item No. : G600F SERIES  
Sample Receiving Date : 2010/03/12  
Testing Period : 2010/03/12 TO 2010/03/19

=====  
Test Result(s) : Please refer to next page(s).

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

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SUMITOMO BAKELITE CO., LTD.

NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



## Test Result(s)

PART NAME NO.1 : BLACK EPOXY MOLDING COMPOUND

Test Item (s):	Unit	Method	MDL	Result
				No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
Perfluorooctane sulfonates (PFOS) PFOS – Acid PFOS – Metal Salt PFOS – Amide	mg/kg	With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.
PFOA (CAS No.: 000335-67-1)	mg/kg	With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.

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# Test Report

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SUMITOMO BAKELITE CO., LTD.

NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



Test Item (s):	Unit	Method	MDL	Result		
				No.1		
<b>Sum of PBBs</b>			-	n.d.		
Monobromobiphenyl	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	5	n.d.		
Dibromobiphenyl			5	n.d.		
Tribromobiphenyl			5	n.d.		
Tetrabromobiphenyl			5	n.d.		
Pentabromobiphenyl			5	n.d.		
Hexabromobiphenyl			5	n.d.		
Heptabromobiphenyl			5	n.d.		
Octabromobiphenyl			5	n.d.		
Nonabromobiphenyl			5	n.d.		
Decabromobiphenyl			5	n.d.		
<b>Sum of PBDEs</b>					-	n.d.
Monobromodiphenyl ether			mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	5	n.d.
Dibromodiphenyl ether	5	n.d.				
Tribromodiphenyl ether	5	n.d.				
Tetrabromodiphenyl ether	5	n.d.				
Pentabromodiphenyl ether	5	n.d.				
Hexabromodiphenyl ether	5	n.d.				
Heptabromodiphenyl ether	5	n.d.				
Octabromodiphenyl ether	5	n.d.				
Nonabromodiphenyl ether	5	n.d.				
Decabromodiphenyl ether	5	n.d.				
<b>Halogen</b>						
Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.			50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 022537-15-1)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.		
Halogen-Bromine (Br) (CAS No.: 010097-32-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.		
Halogen-Iodine (I) (CAS No.: 014362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.		

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SUMITOMO BAKELITE CO., LTD.

NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



Note : 1. mg/kg = ppm ; 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. " - " = Not Regulated

5. This is the additional test report of KA/2010/30950 which was issued on 2010/03/19.

Please refer to KA/2010/30950 for original information.

### **PFOS Reference Information : Directive 2006/122/EC**

(1) 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) 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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## Test Report

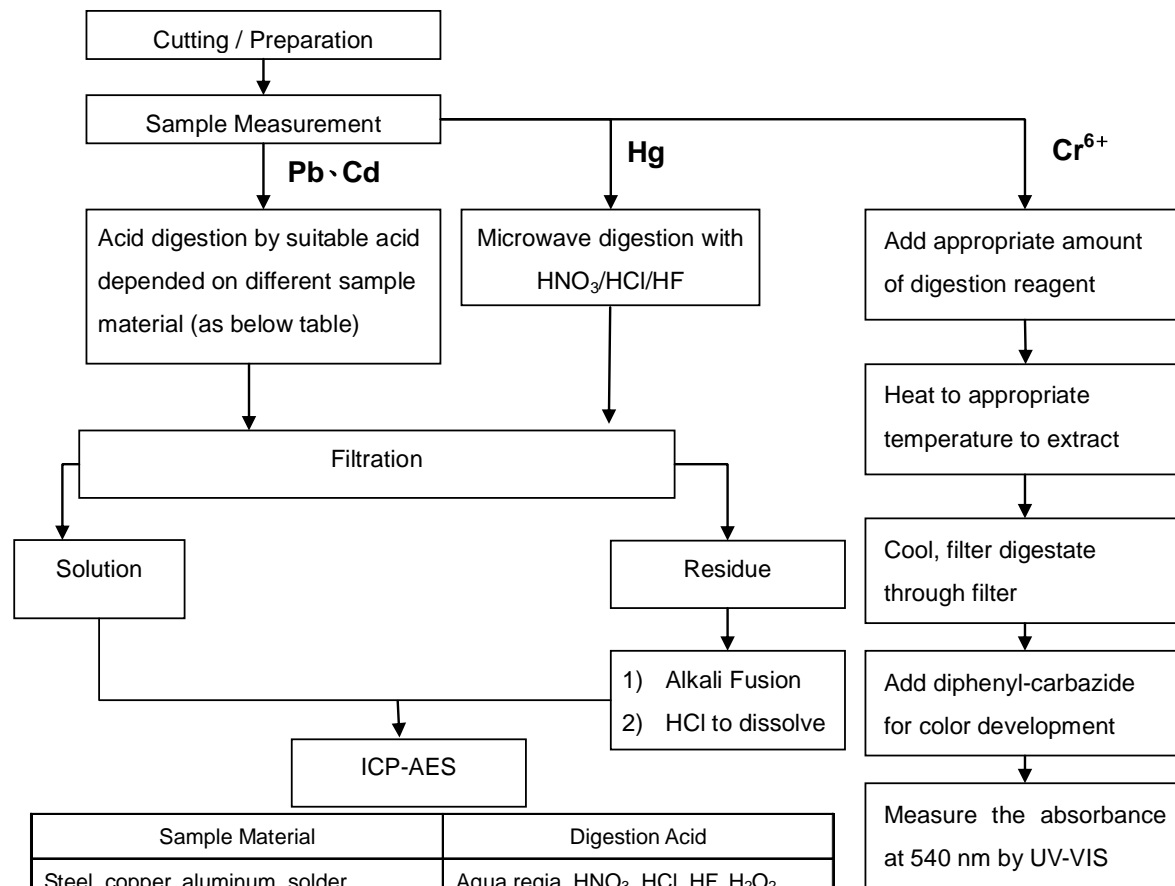
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SUMITOMO BAKELITE CO., LTD.

NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)
- 2) Name of the person who made measurement: Hungming Li
- 3) Name of the person in charge of measurement: Ray Chang



Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>
Glass	HNO <sub>3</sub> /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO <sub>3</sub>
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl
Others	Any acid to total digestion

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SUMITOMO BAKELITE CO., LTD.

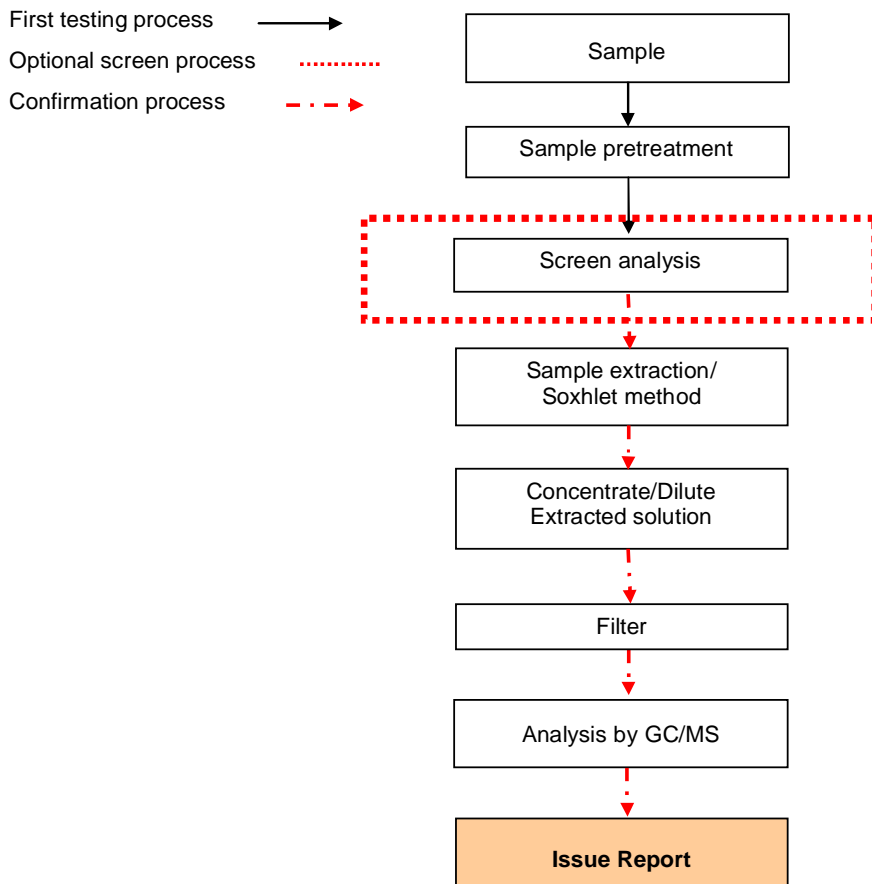
NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



### PBB/PBDE analytical FLOW CHART

1) Name of the person who made measurement: Anson Tsao

2) Name of the person in charge of measurement: Ray Chang



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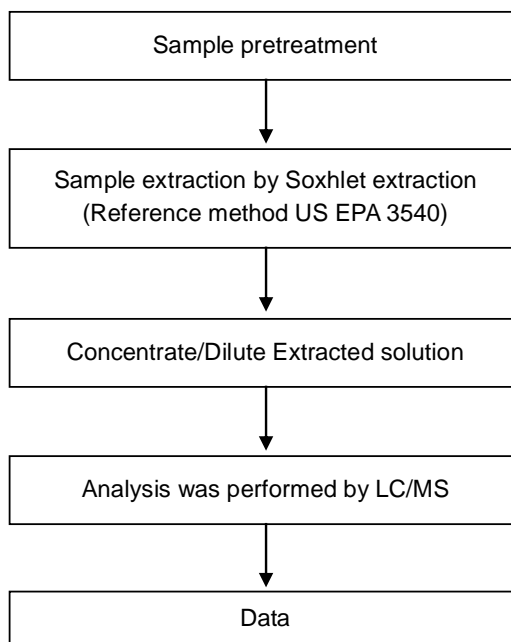
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NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



### Analytical flow chart of PFOA/PFOS content

- 1) Name of the person who made measurement: Anson Tsao
- 2) Name of the person in charge of measurement: Ray Chang



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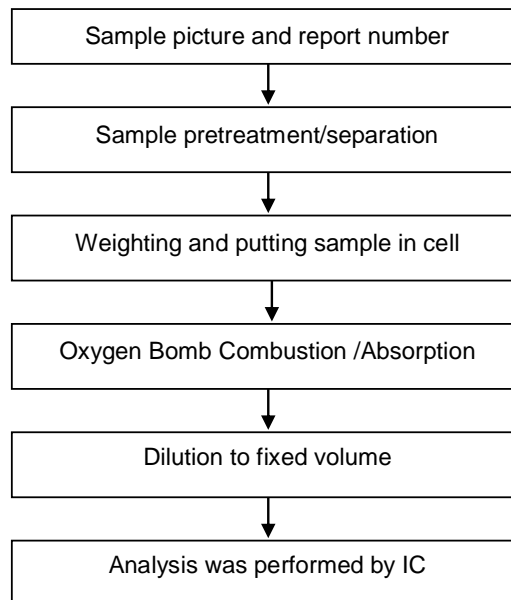
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NO.1, HUASI RD., DALIAO TOWNSHIP, KAOHSIUNG COUNTY 831, TAIWAN (R.O.C.)



### Analytical flow chart of halogen content

- 1) Name of the person who made measurement: Hungming Li
- 2) Name of the person in charge of measurement: Ray Chang



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**\*\* End of Report \*\***

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