

Test Report

No. : KE/2014/B1554 Date : 2014/11/21 Page : 1 of 9

ROGERS CORPORATION
 245 WOODSTOCK ROAD, WOODSTOCK, CT. 06281, USA

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

Sample Description	:	SILICON:RF120 WHITE 0.098"
Color	:	WHITE
Lot No.	:	14F06379002
Material Component	:	SILICON+ALUMINUM
Sample Receiving Date	:	2014/11/17
Testing Period	:	2014/11/17 TO 2014/11/21
Sample Submitted By	:	ROGERS CORPORATION

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

Ray Chang
 Ray Chang / Asst. Manager
 Signed for and on behalf of
 SGS Taiwan Limited
 Chemical Laboratory-Kaohsiung



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Test Result(s)

PART NAME NO.1 : SILICON:RF120 WHITE 0.098"

Test Item (s):	Unit	Method	MDL	Result	
				No.1	
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.	
Mercury (Hg)	mg/kg	With reference to IEC 62321-4: 2013 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.	
Sum of PBBs	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.	
Monobromobiphenyl	mg/kg		5	n.d.	
Dibromobiphenyl	mg/kg		5	n.d.	
Tribromobiphenyl	mg/kg		5	n.d.	
Tetrabromobiphenyl	mg/kg		5	n.d.	
Pentabromobiphenyl	mg/kg		5	n.d.	
Hexabromobiphenyl	mg/kg		5	n.d.	
Heptabromobiphenyl	mg/kg		5	n.d.	
Octabromobiphenyl	mg/kg		5	n.d.	
Nonabromobiphenyl	mg/kg		5	n.d.	
Decabromobiphenyl	mg/kg		5	n.d.	
Sum of PBDEs	mg/kg		With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
Monobromodiphenyl ether	mg/kg			5	n.d.
Dibromodiphenyl ether	mg/kg	5		n.d.	
Tribromodiphenyl ether	mg/kg	5		n.d.	
Tetrabromodiphenyl ether	mg/kg	5		n.d.	
Pentabromodiphenyl ether	mg/kg	5		n.d.	
Hexabromodiphenyl ether	mg/kg	5		n.d.	
Heptabromodiphenyl ether	mg/kg	5		n.d.	
Octabromodiphenyl ether	mg/kg	5		n.d.	
Nonabromodiphenyl ether	mg/kg	5		n.d.	
Decabromodiphenyl ether	mg/kg	5	n.d.		

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Test Item (s):	Unit	Method	MDL	Result
				No.1
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	With reference to IEC 62321: 2008 method. Analysis was performed by GC/MS.	5	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
BBP (Butyl benzyl phthalate) (CAS No.: 85-68-7)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	%	With reference to EN 14372. Analysis was performed by GC/MS.	0.003	n.d.
Halogen				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	502
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.

- Note : 1. mg/kg = ppm ; 0.1wt% = 1000ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. " - " = Not Regulated

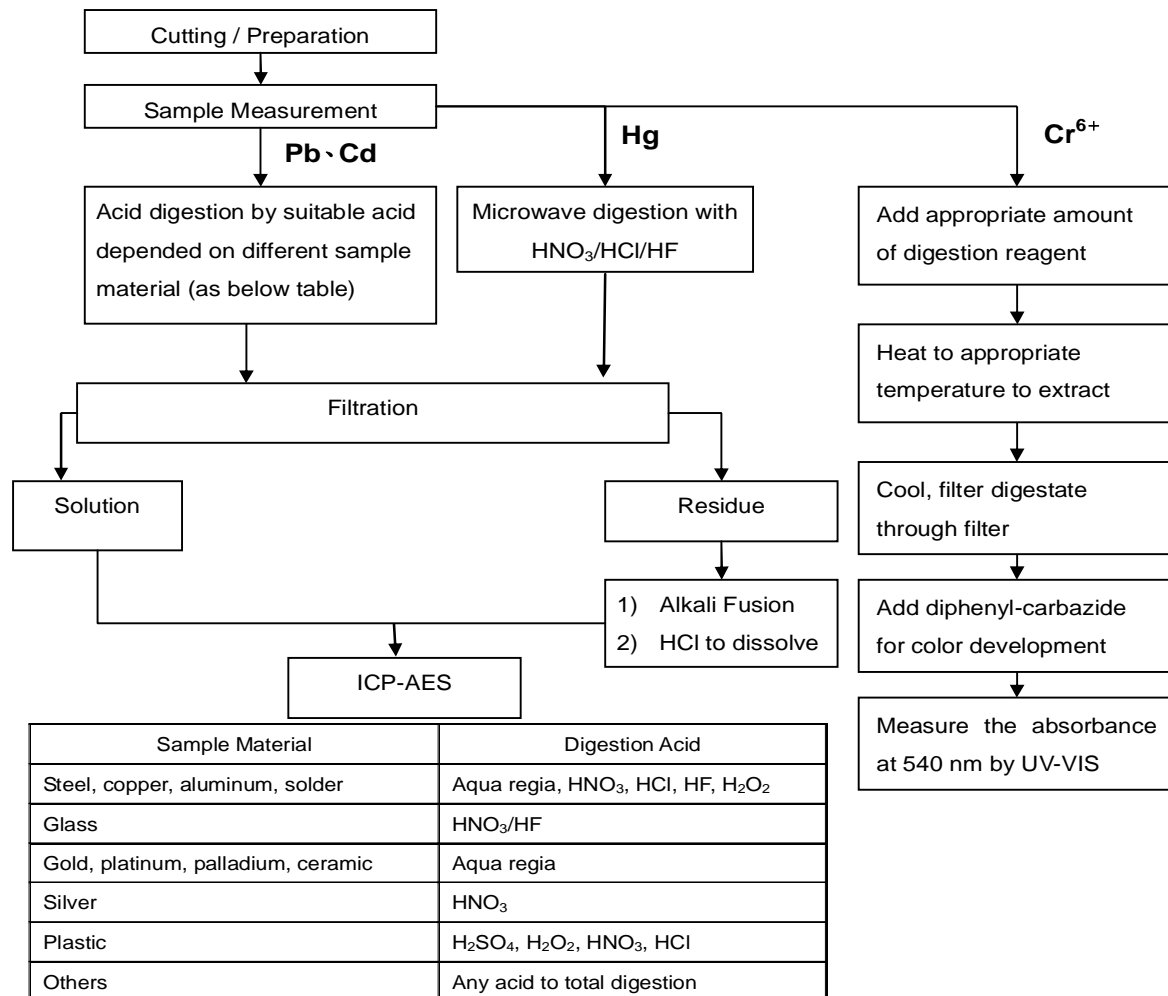
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- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Jony Liu
- 3) Name of the person in charge of measurement: Ray Chang



Note :** (1) For non-metallic material, add alkaline digestion reagent and heat to 90~95°C.
(2) For metallic material, add pure water and heat to boiling.

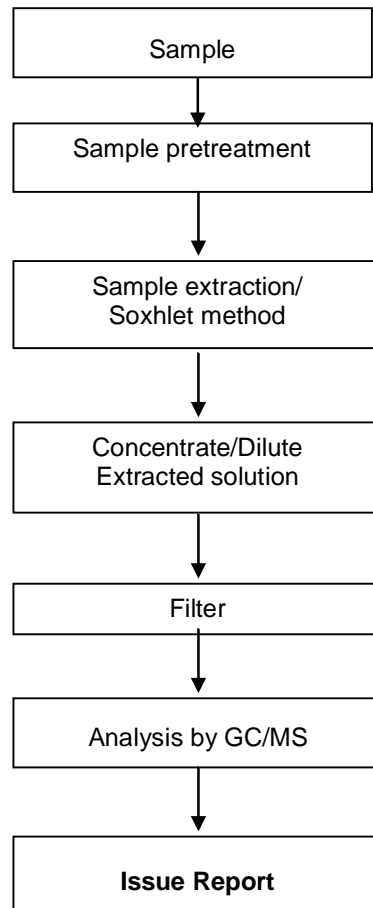
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PBB/PBDE analytical FLOW CHART

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



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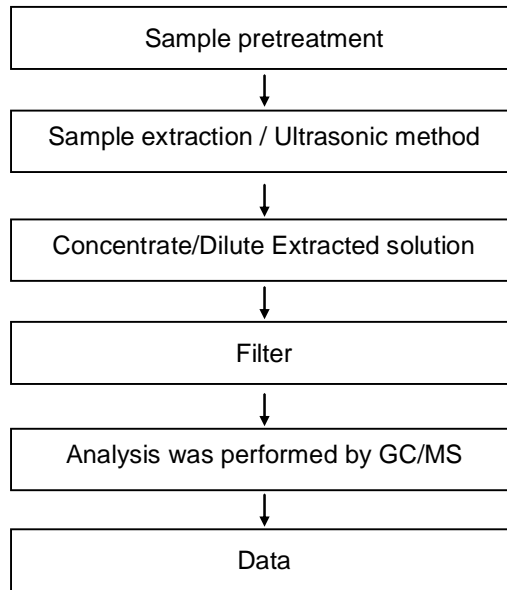
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HBCDD analytical flow chart

- Name of the person who made measurement: Dorothy Chen
- Name of the person in charge of measurement: Ray Chang



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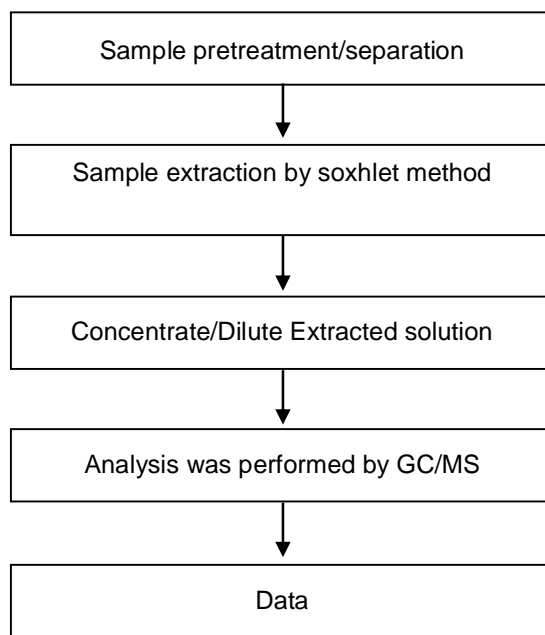
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Analytical flow chart of phthalate content

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



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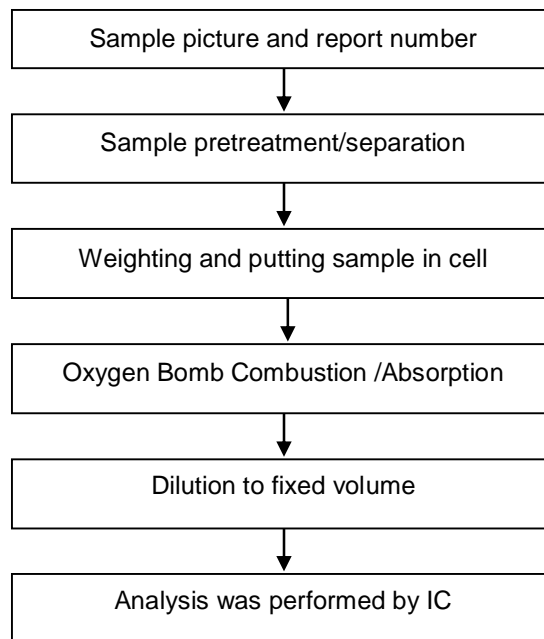
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Analytical flow chart of halogen content

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



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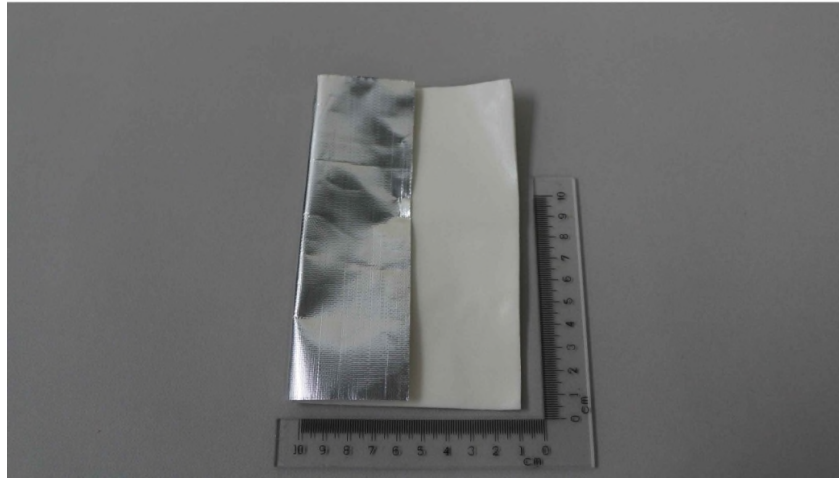
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* The tested sample / part is marked by an arrow if it's shown on the photo. *

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** End of Report **

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