



Chemical Laboratory - Kao., SGS Taiwan Ltd.

# Test Report

No. : KE/2018/11379    Date : 2018/01/25    Page : 1 of 8

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	:	FAL
Style/Item No.	:	FAL
Color	:	CLEAR
Sample Receiving Date	:	2018/01/19
Testing Period	:	2018/01/19 TO 2018/01/25
Sample Submitted By	:	ROGERS CORPORATION

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

*Ray Chang*  
  
**Ray Chang Ph.D. Manager - Tech**  
 Signed for and on behalf of  
**SGS Taiwan Limited**

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Chemical Laboratory - Kao., SGS Taiwan Ltd.

# Test Report

No. : KE/2018/11379 Date : 2018/01/25 Page : 2 of 8

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## Test Result(s)

PART NAME NO.1 : CLEAR FAL FILM WITH ADHESIVE

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)	mg/kg	With reference to IEC 62321-7-2:2017 and performed by UV-VIS.	8	n.d.	
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321-6:2015 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.	
<b>Sum of PBDEs</b>	mg/kg		With reference to IEC 62321-6:2015 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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Chemical Laboratory - Kao., SGS Taiwan Ltd.

# Test Report

No. : KE/2018/11379 Date : 2018/01/25 Page : 3 of 8

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Test Item (s):	Unit	Method	MDL	Result
				No.1
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	50	n.d.
DBP (Dibutyl phthalate) (CAS No.: 84-74-2)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	50	n.d.
BBP (Butyl Benzyl phthalate) (CAS No.: 85-68-7)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	50	n.d.
DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	50	n.d.
Halogen				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582:2016. Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg	With reference to BS EN 14582:2016. Analysis was performed by IC.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg	With reference to BS EN 14582:2016. Analysis was performed by IC.	50	n.d.
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg	With reference to BS EN 14582:2016. 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

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## Test Report

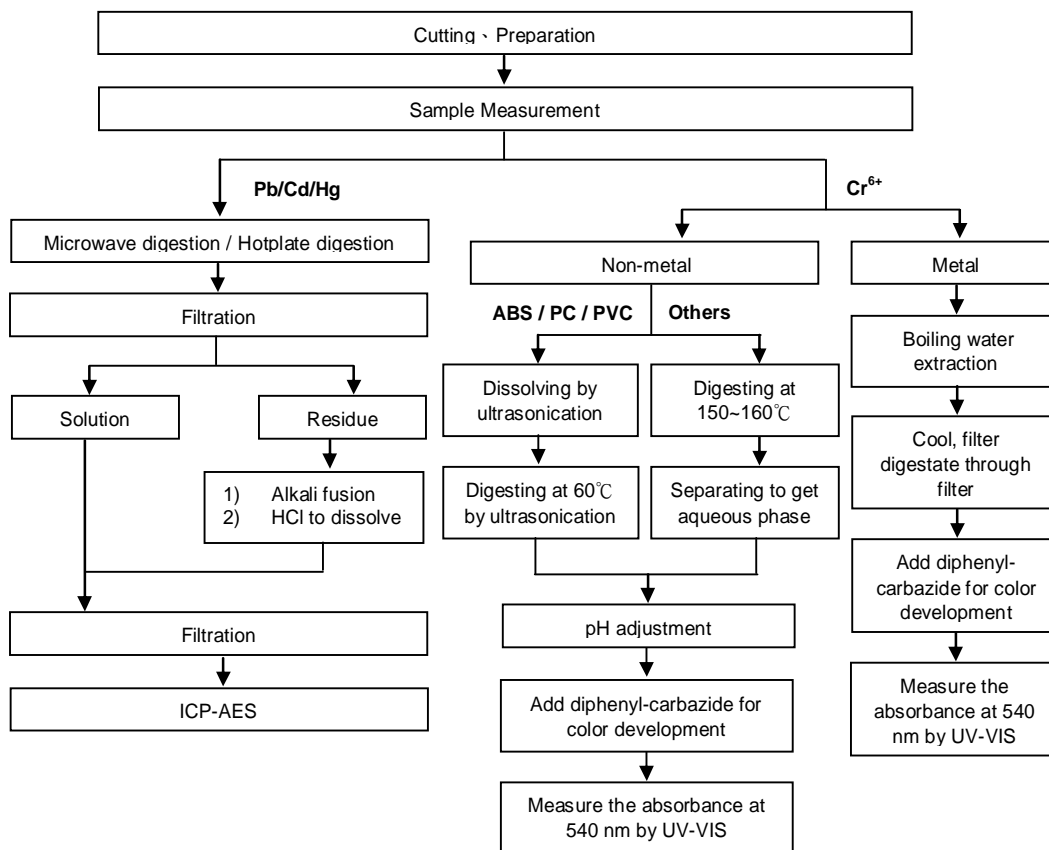
No. : KE/2018/11379 Date : 2018/01/25 Page : 4 of 8

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### Analytical flow chart of Heavy Metal

These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded)

- Technician : Jony Liu
- Supervisor: Ray Chang



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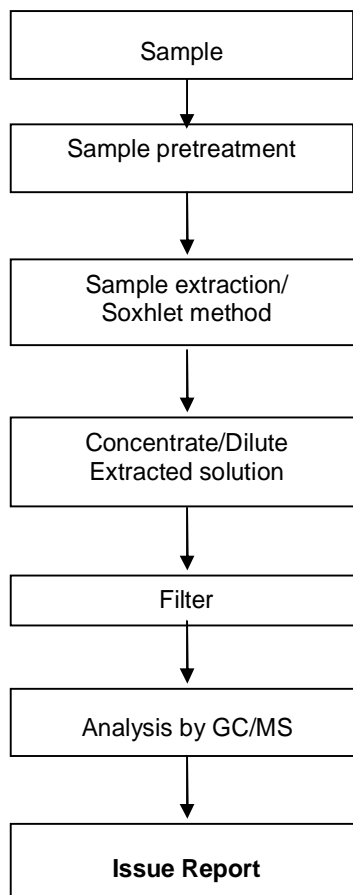
## Test Report

No. : KE/2018/11379 Date : 2018/01/25 Page : 5 of 8

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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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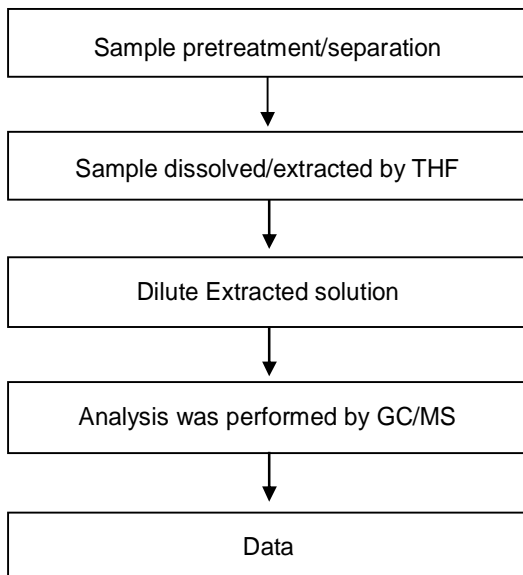
No. : KE/2018/11379 Date : 2018/01/25 Page : 6 of 8

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### Analytical flow chart of phthalate content

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

#### 【Test method: IEC 62321-8】



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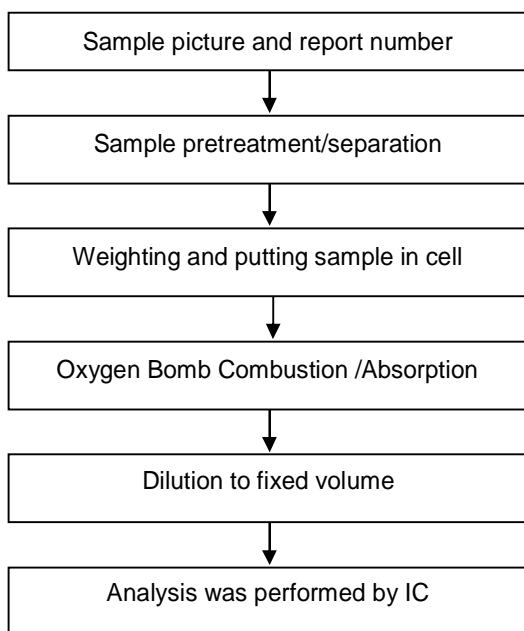
## Test Report

No. : KE/2018/11379 Date : 2018/01/25 Page : 7 of 8

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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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## Test Report

No. : KE/2018/11379 Date : 2018/01/25 Page : 8 of 8

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

# KE/2018/11379



\*\* End of Report \*\*