



## Test Report

No. SH9060343/CHEM

Date: Apr. 11, 2009

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

Sample Name : 1. Au-TiFRAME, 2. Ni-CoFRAME, 3. NAT-311B, 4. W(TUMGSTEN), 5. KV RING  
 SGS Ref No. : SUZ11737223-3

Sample Receiving Date : Apr.08, 2009  
 Testing Period : Apr.08 – 11, 2009

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives

Test Method : (1) With reference to IEC 62321:2008 for Cadmium content.  
 Analysis was performed by ICP.  
 (2) With reference to IEC 62321:2008 for Lead content.  
 Analysis was performed by ICP.  
 (3) With reference to IEC 62321:2008 for Mercury content.  
 Analysis was performed by ICP.  
 (4) With reference to IEC 62321:2008 for Hexavalent Chromium by spot test /  
 Colorimetric Method.  
 (5) With reference to IEC 62321:2008 for PBBs / PBDEs content.  
 Analysis was performed by GC/MS.

Test Results : Please refer to next pages

Signed for and on behalf of  
 SGS-CSTC Chemical Laboratory

*Sandy Hao*

Sandy Hao  
 Lab Manager

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ETC-20091061



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Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	1	2	3	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	ND	ND	2	100
Lead (Pb)	(2)	ND	ND	ND	2	1000
Mercury (Hg)	(3)	ND	ND	ND	2	1000
Hexavalent Chromium (CrVI)	(4)	---	---	2	2	1000
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction	(4)	Negative	Negative	---	#	-
Sum of PBBs	(5)	ND	ND	ND	-	1000
Monobromobiphenyl		ND	ND	ND	5	-
Dibromobiphenyl		ND	ND	ND	5	-
Tribromobiphenyl		ND	ND	ND	5	-
Tetrabromobiphenyl		ND	ND	ND	5	-
Pentabromobiphenyl		ND	ND	ND	5	-
Hexabromobiphenyl		ND	ND	ND	5	-
Heptabromobiphenyl		ND	ND	ND	5	-
Octabromobiphenyl		ND	ND	ND	5	-
Nonabromobiphenyl		ND	ND	ND	5	-
Decabromobiphenyl		ND	ND	ND	5	-
Sum of PBDEs		ND	ND	ND	-	1000
Monobromodiphenyl ether		ND	ND	ND	5	-
Dibromodiphenyl ether		ND	ND	ND	5	-
Tribromodiphenyl ether		ND	ND	ND	5	-
Tetrabromodiphenyl ether		ND	ND	ND	5	-
Pentabromodiphenyl ether		ND	ND	ND	5	-
Hexabromodiphenyl ether		ND	ND	ND	5	-
Heptabromodiphenyl ether		ND	ND	ND	5	-
Octabromodiphenyl ether		ND	ND	ND	5	-
Nonabromodiphenyl ether		ND	ND	ND	5	-
Decabromodiphenyl ether##		ND	ND	ND	5	-

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Test Item(s):	Method (refer to)	4	5	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	ND	2	100
Lead (Pb)	(2)	ND	ND	2	1000
Mercury (Hg)	(3)	ND	ND	2	1000
Hexavalent Chromium (CrVI)	(4)	ND	---	2	1000
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction	(4)	---	Negative	#	-
Sum of PBBs	(5)	ND	ND	-	1000
Monobromobiphenyl		ND	ND	5	-
Dibromobiphenyl		ND	ND	5	-
Tribromobiphenyl		ND	ND	5	-
Tetrabromobiphenyl		ND	ND	5	-
Pentabromobiphenyl		ND	ND	5	-
Hexabromobiphenyl		ND	ND	5	-
Heptabromobiphenyl		ND	ND	5	-
Octabromobiphenyl		ND	ND	5	-
Nonabromobiphenyl		ND	ND	5	-
Decabromobiphenyl		ND	ND	5	-
Sum of PBDEs		ND	ND	-	1000
Monobromodiphenyl ether		ND	ND	5	-
Dibromodiphenyl ether		ND	ND	5	-
Tribromodiphenyl ether		ND	ND	5	-
Tetrabromodiphenyl ether		ND	ND	5	-
Pentabromodiphenyl ether		ND	ND	5	-
Hexabromodiphenyl ether		ND	ND	5	-
Heptabromodiphenyl ether		ND	ND	5	-
Octabromodiphenyl ether		ND	ND	5	-
Nonabromodiphenyl ether		ND	ND	5	-
Decabromodiphenyl ether##		ND	ND	5	-

### Test Part Description:

1. Copper metal
2. Silvery metal
3. Black solid sheet
4. Grey solid part
5. Silvery metal

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### Note:

- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) # = Spot-test:
  - Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
  - (The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)
  - Boiling-water-extraction:
    - Negative = Absence of CrVI coating
    - Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm<sup>2</sup> sample surface area.
  - For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing
- (5) ## = The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE is included in the sum of PBDE after 01.07.2008.
- (6) "-" = Not Regulated
- (7) "---" = Not Conducted
- (8) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

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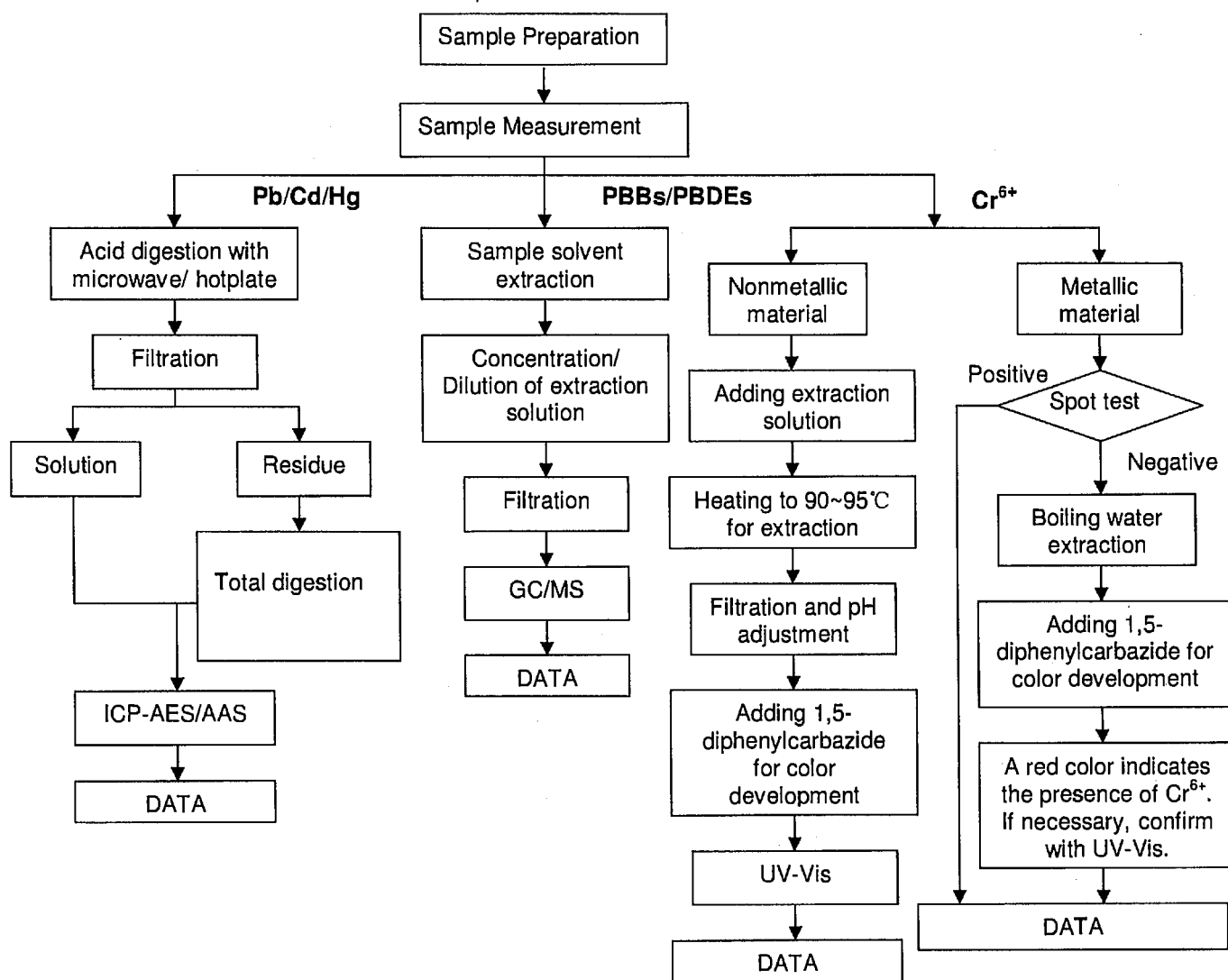
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### ATTACHMENTS

- 1) Name of the person who made measurement: Jeff Zhang/Chaven Lian/Frank Fang/Elim Lin
- 2) Name of the person in charge of measurement: Terry Wang/Phoebe Shen
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded)



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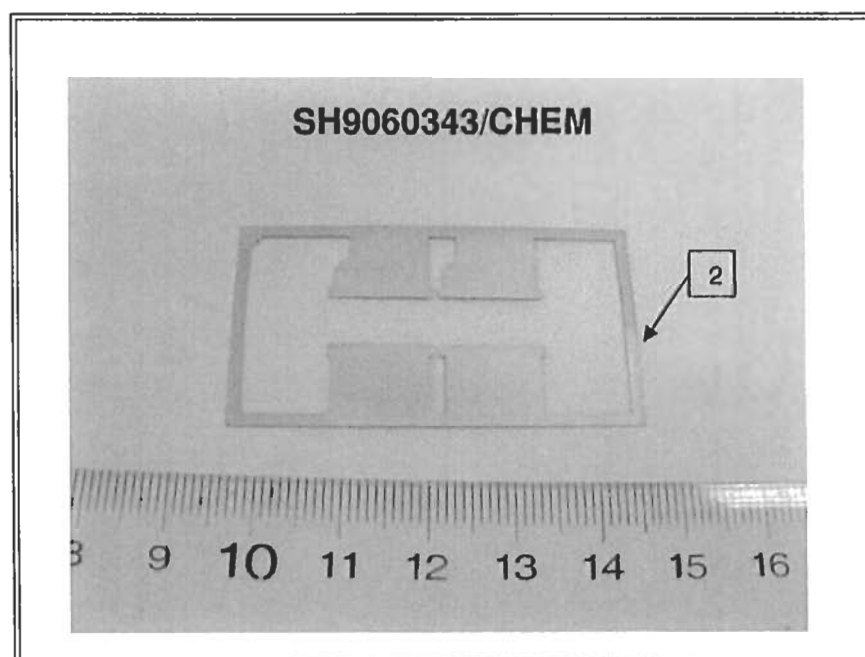
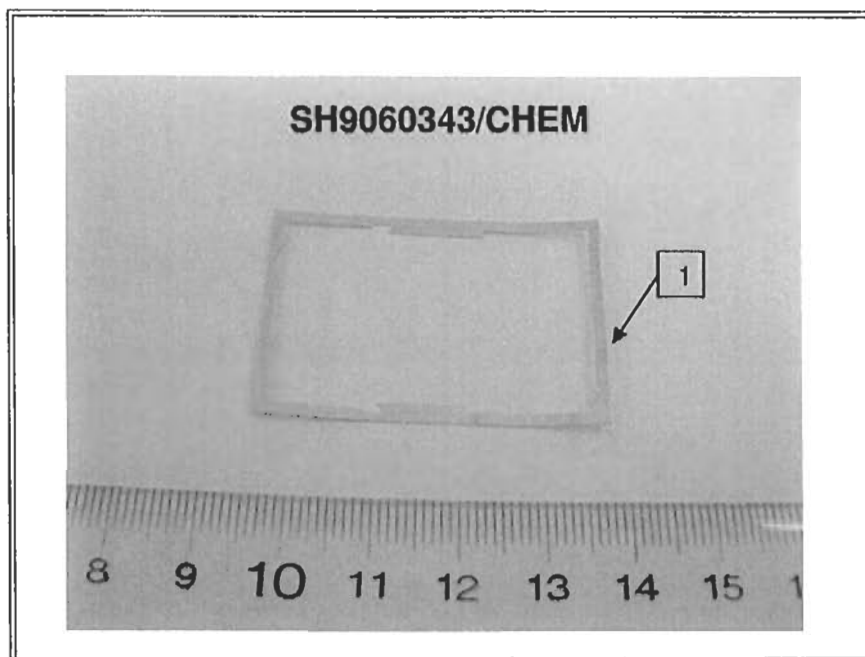
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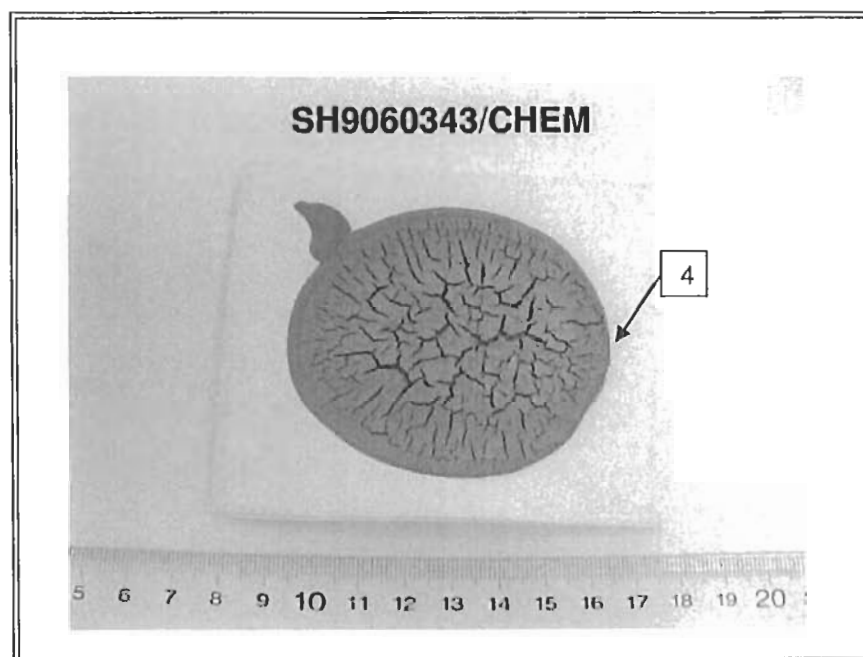
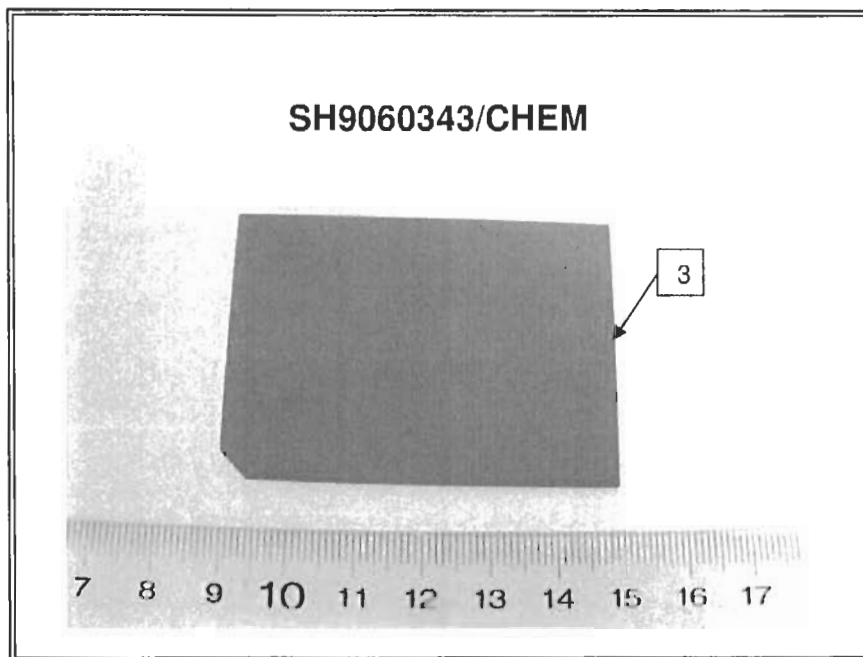
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Sample photo:



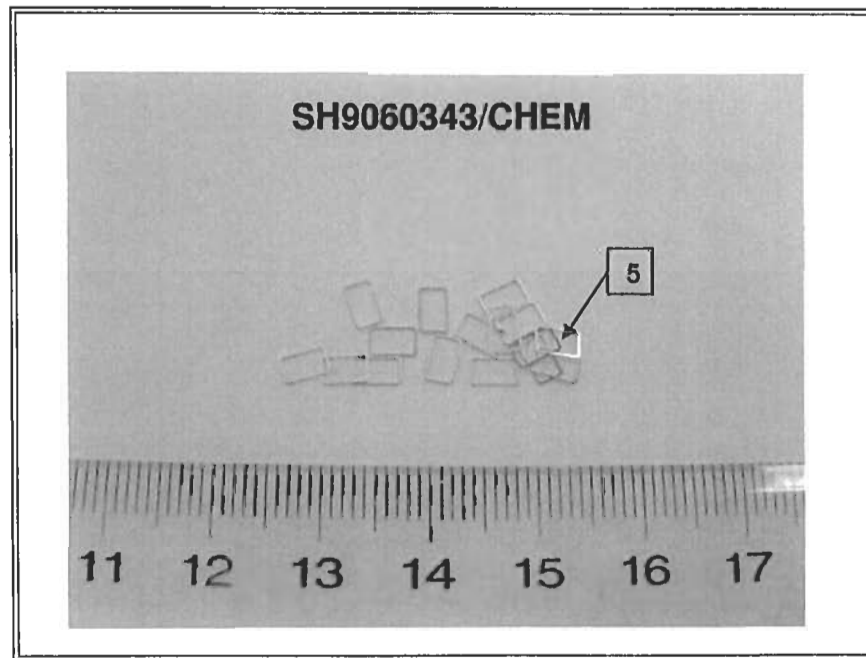
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