

Test Report

No. SH9085039/CHEM

Date: May. 11, 2009

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SHANGHAI SIM-BCD SEMICONDUCTOR MANUFACTURING CO., LTD
800, YISHAN RD, SHANGHAI, CHINA

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

Sample Name : IC PRODUCT
SGS Ref No. : 11820381-2
Part No : SOT23-5
Main Substance : Cu/Fe/EPOXY RESIN
Supplier : HANA

Sample Receiving Date : May.07, 2009
Testing Period : May.07-12, 2009

Test Requested : (1) In accordance with the RoHS Directive 2002/95/EC, and its amendment directives
(2) To determine the Halogen- Fluorine, Chlorine, Bromine, Iodine Content in the submitted sample.

Test Method : (1-1) With reference to IEC 62321:2008 for Cadmium content.
Analysis was performed by ICP.
(1-2) With reference to IEC 62321:2008 for Lead content.
Analysis was performed by ICP.
(1-3) With reference to IEC 62321:2008 for Mercury content.
Analysis was performed by ICP.
(1-4) With reference to IEC 62321:2008 for Hexavalent Chromium by Colorimetric Method.
(1-5) With reference to IEC 62321:2008 for PBBs / PBDEs content.
Analysis was performed by GC/MS.
(2) With reference to EN 14582: 2007.
(2-1) Determination of Fluorine by Ion Chromatograph (IC) method.
(2-2) Determination of Chlorine by Ion Chromatograph (IC) method.
(2-3) Determination of Bromine by Ion Chromatograph (IC) method.
(2-4) Determination of Iodine by Ion Chromatograph (IC) method.

Test Results : Please refer to next pages

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Sandy Hao
Lab Manager

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

(1) Cadmium, Lead, Mercury, Hexavalent Chromium, PBBs (Polybrominated biphenyls) and PBDEs (Polybrominated biphenyl ethers) Content

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

(2) Halogen Content

Test Item(s):	Method (refer to)	1*	MDL
Fluorine(F)	(2-1)	ND	50
Chlorine(Cl)	(2-2)	ND	50
Bromine(Br)	(2-3)	ND	50
Iodine(I)	(2-4)	ND	50

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Test Part Description:

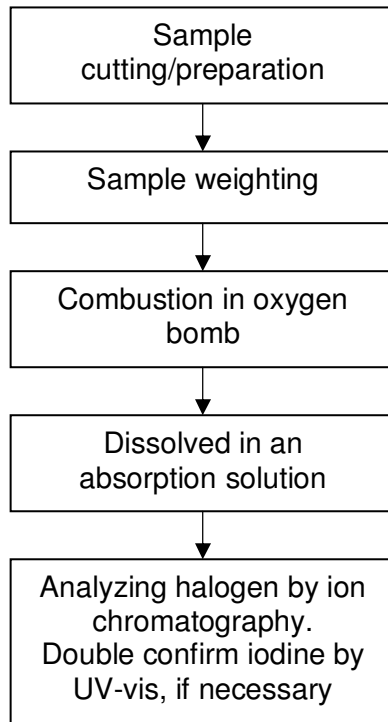
1. Black solid body with printing with silvery metal (mix all)

Note:

- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) ##=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.
- (5) "-" = Not Regulated
- (6) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC
- (7) ⚡ Hexavalent Chromium was absent on the surface of the metal sample. Analysis was performed by IEC 62321:2008 spot-test/boiling-water-extraction.
- (8) * The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value.

ATTACHMENTS

Halogen Measurement Flowchart for sample

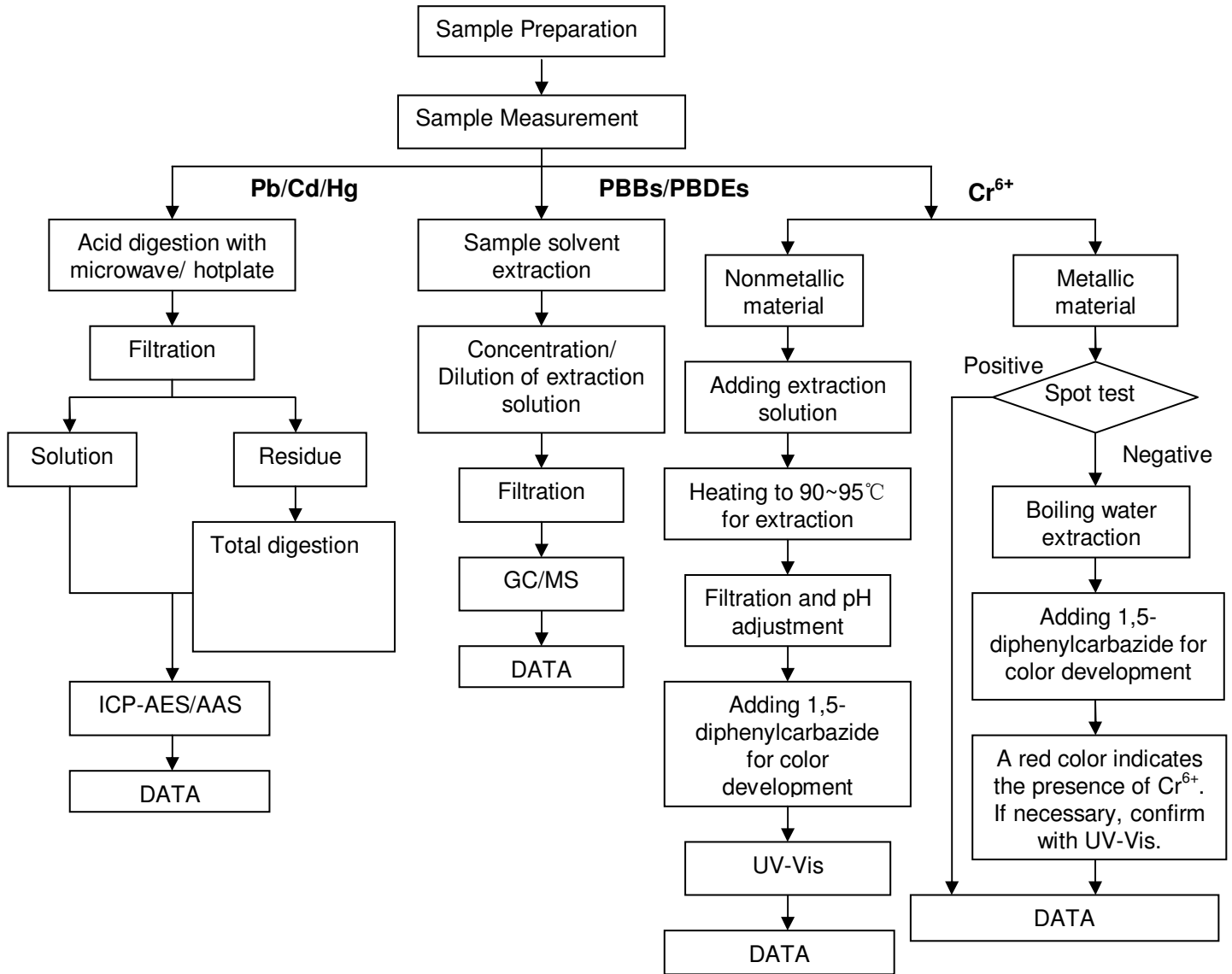


Tested by : Daisy Gong
Checked by : Alex Jiang

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- 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. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



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Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

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