

## Test Report

No. CANEC0900241309

Date: 02 Feb 2009

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SEMTECH ELECTRONICS LIMITED

12-18 BAIYE CHENG ROAD, SHANGTUN INDUSTRIAL ZONE, LIAOBU, DONGGUAN, GUANGDONG, PR CHINA

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

SMD Glass Diodes

SGS Job No. : 11569355 - GZ

SGS Internal Reference No. : 17.1

Date of Sample Received : 16 Jan 2009

Testing Period : 16 Jan 2009 - 02 Feb 2009

Test Requested : Selected test(s) as requested by client.

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

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

Conclusion : A: Based on the performed tests on submitted sample(s), the results **comply with** the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of  
SGS-CSTC Ltd.



Huang Fang, Sunny  
Sr. Engineer

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## Test Results:

ID for specimen 1 : CAN09-002413.001  
Description for specimen 1 : Red body w/ silvery metal edge (mixed)

## A: RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321:2008, ICP-OES	177916 <sup>&lt;1&gt;</sup>	2	1000
Mercury (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	mg/kg	IEC 62321:2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	-	N.D.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Dibromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tribromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Pentabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Hexabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Heptabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Octabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Nonabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Sum of PBDEs	mg/kg	-	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Dibromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Decabromodiphenyl ether ##	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	

## Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
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

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ID for specimen 2 : CAN09-002413.002  
Description for specimen 2 : Silvery metal

### A: RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
Mercury (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321:2008, UV-Vis	Negative	◇	#

#### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
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.  
Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.
5. # = Positive indicates the presence of CrVI on the tested areas.  
Negative indicates the absence of CrVI on the tested areas.
6. "-" = Not regulated

### B: Heavy metal(s)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Hexavalent Chromium (CrVI) by boiling water extraction	µg/cm <sup>2</sup>	JIS H8625-1993, UV-Vis	N.D.	0.02

#### Note:

1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

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Remark1: As requested by client, the testing of specimen 1 was conducted as whole / part sample, for the sample can't be disjointed.

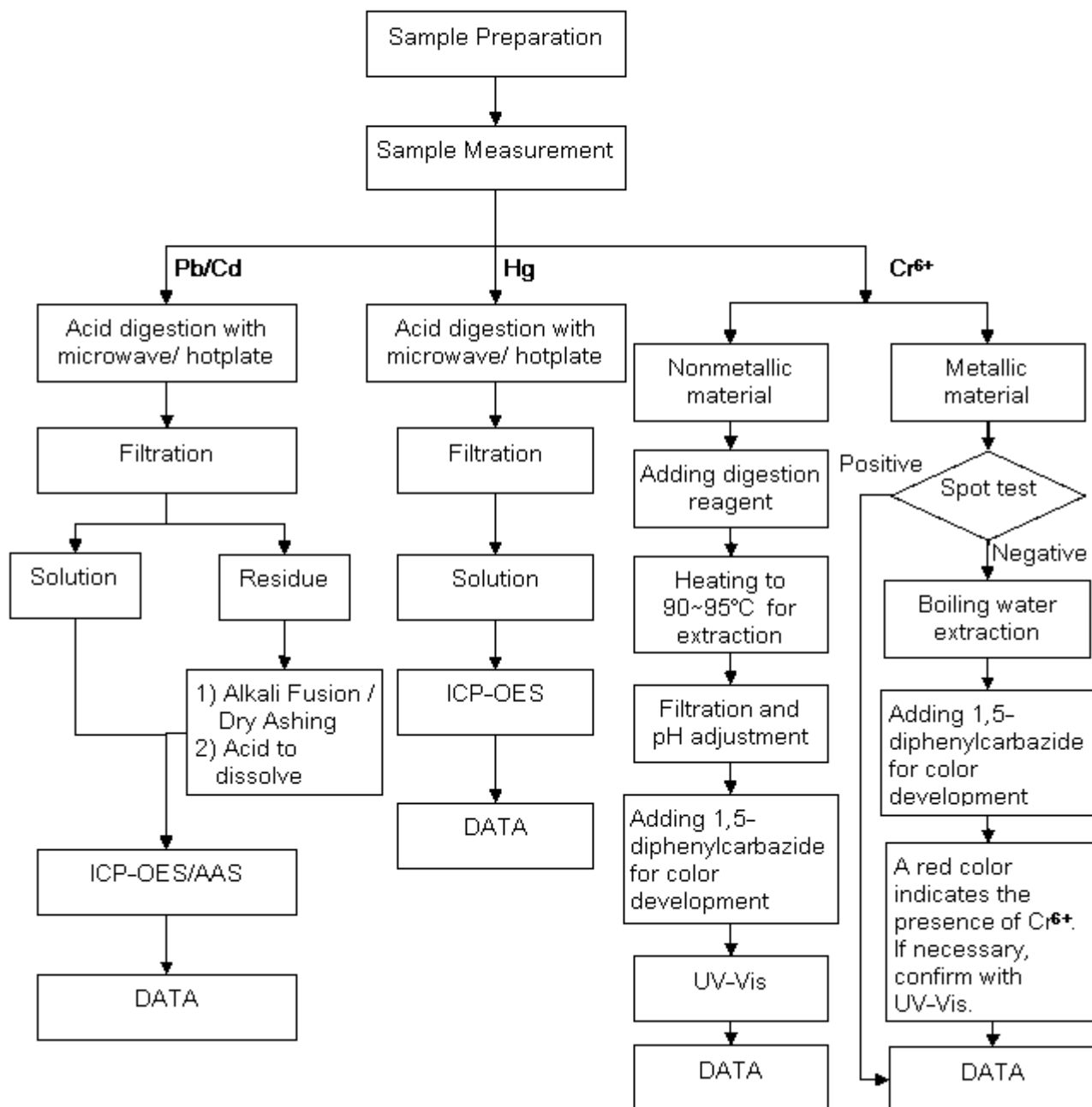
Remark<1>: According to the declaration from client, the source of Lead in the specimen 1 could be from the glass material of that cathode ray tubes which is exempted by RoHS regulatory (Directive 2002/95/EC of the European parliament and of The council of 27 January 2003)

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## ATTACHMENTS

### Testing Flow Chart

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



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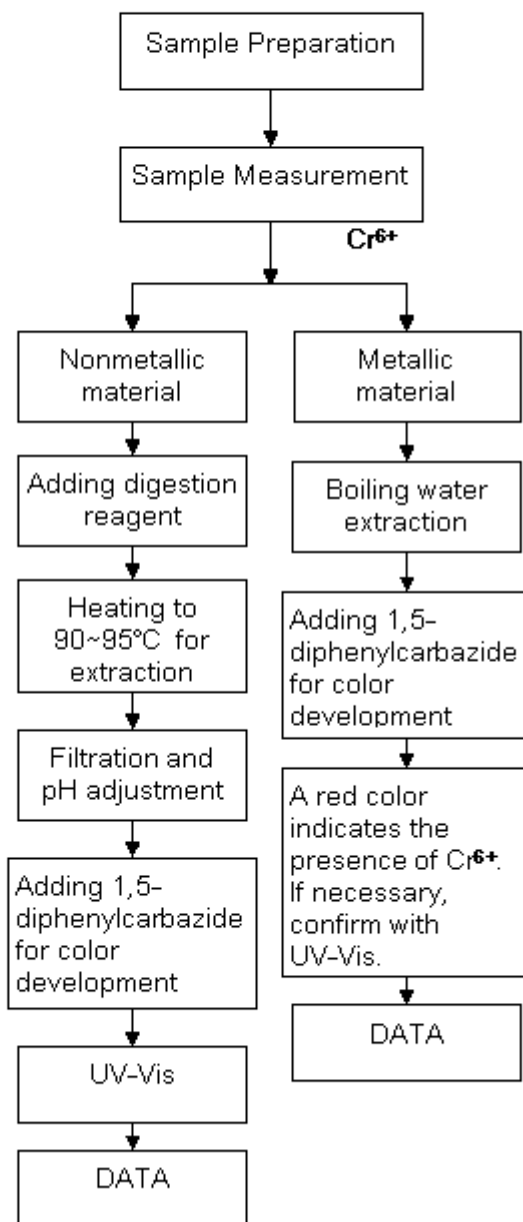
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### ATTACHMENTS

#### Testing Flow Chart

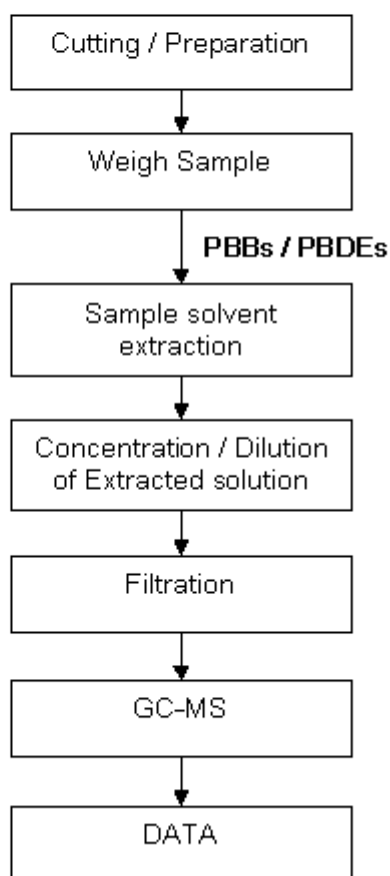
- 1) Name of the person who made measurement: Bowen Chen
- 2) Name of the person in charge of measurement: Adams Yu



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### Testing Flow Chart

- 1) Name of the person who made measurement: Lina Tang
- 2) Name of the person in charge of measurement: Tina Zhao



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Sample photo:



SGS authenticate the photo on original report only

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

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