

Heraeus Materials Singapore Pte Ltd
No. 2 Corporation Road #06-15/16/17 Corporation Place Singapore 618494

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

Sample Description : PbSn5Ag2.5-D3-DA435-0 Solder Paste

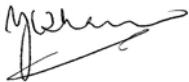
Sample Receiving Date : 13-Mar-12
Testing Period : 13-Mar-12 to 19-Mar-12

Test Requested : In accordance with the RoHS Directive 2011/65/EU Annex II.

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

Conclusion : Based on the performed tests on submitted sample(s), the results **comply with** the RoHS Directive 2011/65/EU Annex II ; recasting 2002/95/EC.

Signed for and on behalf of
SGS Testing & Control Services Singapore Pte Ltd



Y.C. Tham
Laboratory Manager

Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

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Test Result(s):

Sample Description : PbSn5Ag2.5-D3-DA435-0 Solder Paste

Test Item(s):	Unit	Method	Results	MDL	RoHS Limit
Cadmium(Cd)	mg/kg	With reference to IEC62321, Ed1:2008. Analysis was performed by ICP/AES	n.d.	2	100
Lead (Pb)	mg/kg	With reference to IEC62321, Ed1:2008. Analysis was performed by ICP/AES	921730 ⁺	2	1000
Mercury (Hg)	mg/kg	With reference to IEC62321, Ed1:2008. Analysis was performed by ICP/AES	n.d.	2	1000
Hexavalent Chromium (CrVI)	mg/kg	With reference to IEC62321, Ed1:2008. Analysis was performed by UV/Vis Spectrometry	n.d.	2	1000
Sum of PBBs	mg/kg	With reference to IEC62321, Ed1:2008. Analysis was performed by GC/MS	n.d.	-	1000
Monobromobiphenyl	mg/kg		n.d.	5	-
Dibromobiphenyl	mg/kg		n.d.	5	-
Tribromobiphenyl	mg/kg		n.d.	5	-
Tetrabromobiphenyl	mg/kg		n.d.	5	-
Hexabromobiphenyl	mg/kg		n.d.	5	-
Pentabromobiphenyl	mg/kg		n.d.	5	-
Heptabromobiphenyl	mg/kg		n.d.	5	-
Octabromobiphenyl	mg/kg		n.d.	5	-
Nonabromobiphenyl	mg/kg		n.d.	5	-
Decabromobiphenyl	mg/kg		n.d.	5	-
Sum of PBDEs	mg/kg		n.d.	-	1000
Monobromodiphenyl ether	mg/kg		n.d.	5	-
Dibromodiphenyl ether	mg/kg		n.d.	5	-
Tribromodiphenyl ether	mg/kg		n.d.	5	-
Tetrabromodiphenyl ether	mg/kg		n.d.	5	-
Pentabromodiphenyl ether	mg/kg		n.d.	5	-
Hexabromodiphenyl ether	mg/kg		n.d.	5	-
Heptabromodiphenyl ether	mg/kg		n.d.	5	-
Octabromodiphenyl ether	mg/kg		n.d.	5	-
Nonabromodiphenyl ether	mg/kg	n.d.	5	-	
Decabromodiphenyl ether	mg/kg	n.d.	5	-	

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- Note:
- (1) mg/kg = ppm ; 0.1wt% = 1000ppm
 - (2) n.d.= Not Detected
 - (3) MDL = Method Detection Limit
 - (4) “-“ = Not regulated
 - (5) * : Exceeds limit

***Exemption: The received sample is exempted under directive 2011/65/EC Annex Article 7(a): lead in high melting temperature solder type solders (i.e. tin-lead solder alloys containing more than 85% of lead).**

Remarks: Sample received was totally dissolved by preconditioning method.
Lab Analyst(s): Jay, Jojo and Eileen

Sample photo:

Sample Description : PbSn5Ag2.5-D3-DA435-0 Solder Paste

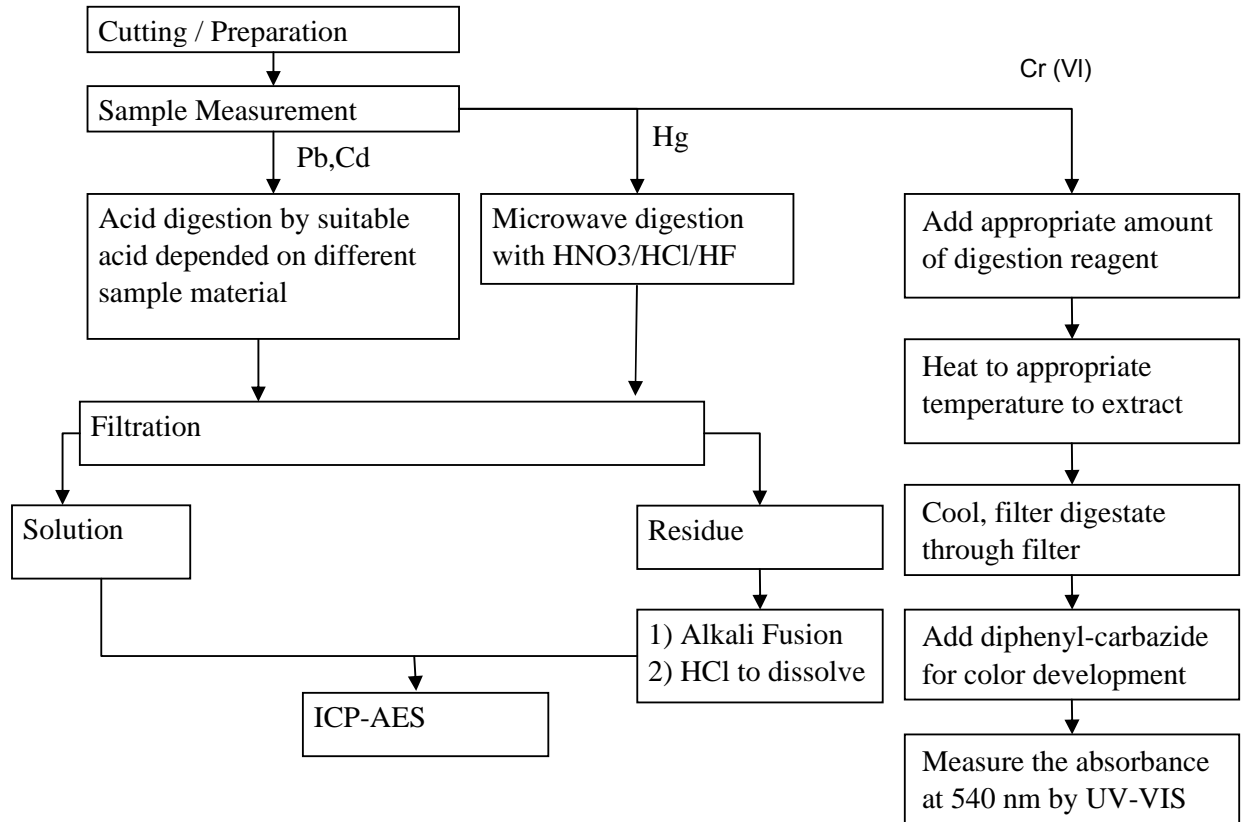
SGS authenticate the photo on original report only



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Process Flow of IEC 62321 (Pb, Cd, Hg & Cr⁶⁺)



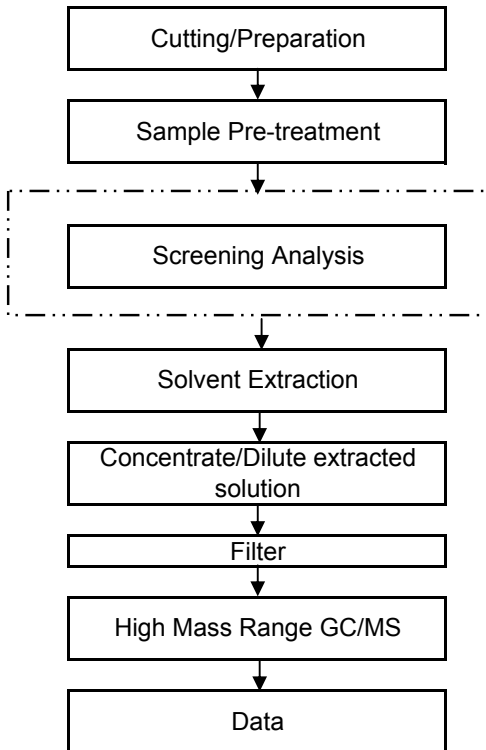
Remarks: Sample received was totally dissolved by preconditioning method. (CrVI method excluded)

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Process Flow of PBBs and PBDEs by GC/MS (IEC 62321)

First Testing Process → Optional screen process Confirmation process ...→



End of Report

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