



Test Report

Number: 140301313SHA-001

Date: Mar. 31, 2014

Sample Description:

One (1) submitted sample said to be: **Transparent glue stick**

Item Name : Glue stick

Tests conducted:

As requested by the applicant, for details refer to attached page(s).

Conclusion:

Tested sample	Standard	Result
Submitted sample	Restriction of the use of certain hazardous substance in electrical and electronic equipment (RoHS Directive 2011/65/EU)	Pass

To be continued

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(A) Test result of RoHS Directive:

<u>Testing item</u>	<u>Result</u>
Cadmium (Cd) content (mg/kg)	ND
Lead (Pb) content (mg/kg)	ND
Mercury (Hg) content (mg/kg)	ND
Chromium (VI) (Cr ⁶⁺) content (mg/kg)(for non-metal)	ND
Polybrominated biphenyls (PBBs) (mg/kg)	
monobromo biphenyls (MonoBB)	ND
Dibromo biphenyls (DiBB)	ND
Tribromo biphenyls (TriBB)	ND
Tetrabromo biphenyls (TetraBB)	ND
Pentabromo biphenyls (PentaBB)	ND
Hexabromo biphenyls (HexaBB)	ND
Heptabromo biphenyls (HeptaBB)	ND
Octabromo biphenyls (OctaBB)	ND
Nonabromo biphenyls (NonaBB)	ND
Decabromo biphenyl (DecaBB)	ND
Polybrominated diphenyl ethers (PBDEs) (mg/kg)	
Monobromo diphenyl ethers (MonoBDE)	ND
Dibromo diphenyl ethers (DiBDE)	ND
Tribromo diphenyl ethers (TriBDE)	ND
Tetrabromo diphenyl ethers (TetraBDE)	ND
Pentabromo diphenyl ethers (PentaBDE)	ND
Hexabromo diphenyl ethers (HexaBDE)	ND
Heptabromo diphenyl ethers (HeptaBDE)	ND
Octabromo diphenyl ethers (OctaBDE)	ND
Nonabromo diphenyl ethers (NonaBDE)	ND
Decabromo diphenyl ether (DecaBDE)	ND

Remark: ND = not detected

To be continued



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(B) RoHS Requirement:

Restricted substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated diphenyl ethers (PBDEs)	0.1% (1000 mg/kg)

The above limits were quoted from RoHS Directive 2011/65/EU for homogeneous material.

(C) Test method:

Testing item	Testing method	Reporting limit
Cadmium (Cd) content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Lead (Pb) content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Mercury (Hg) content	With reference to IEC 62321-4 Edition 1.0: 2013, by acid digestion until the tested sample was totally dissolved, and determined by ICP-OES.	2 mg/kg
Chromium (VI) (Cr ⁶⁺) content (for non-metal)	With reference to IEC 62321 Edition 1.0: 2008, by alkaline digestion and determined by UV-VIS Spectrophotometer.	1mg/kg
Polybrominated biphenyls (PBBs)& polybrominated diphenyl ethers (PBDEs)	With reference to IEC 62321 Edition 1.0: 2008, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary.	5 mg/kg

Date sample received: Mar. 21, 2014

Testing period: Mar. 21, 2014 To Mar. 25, 2014

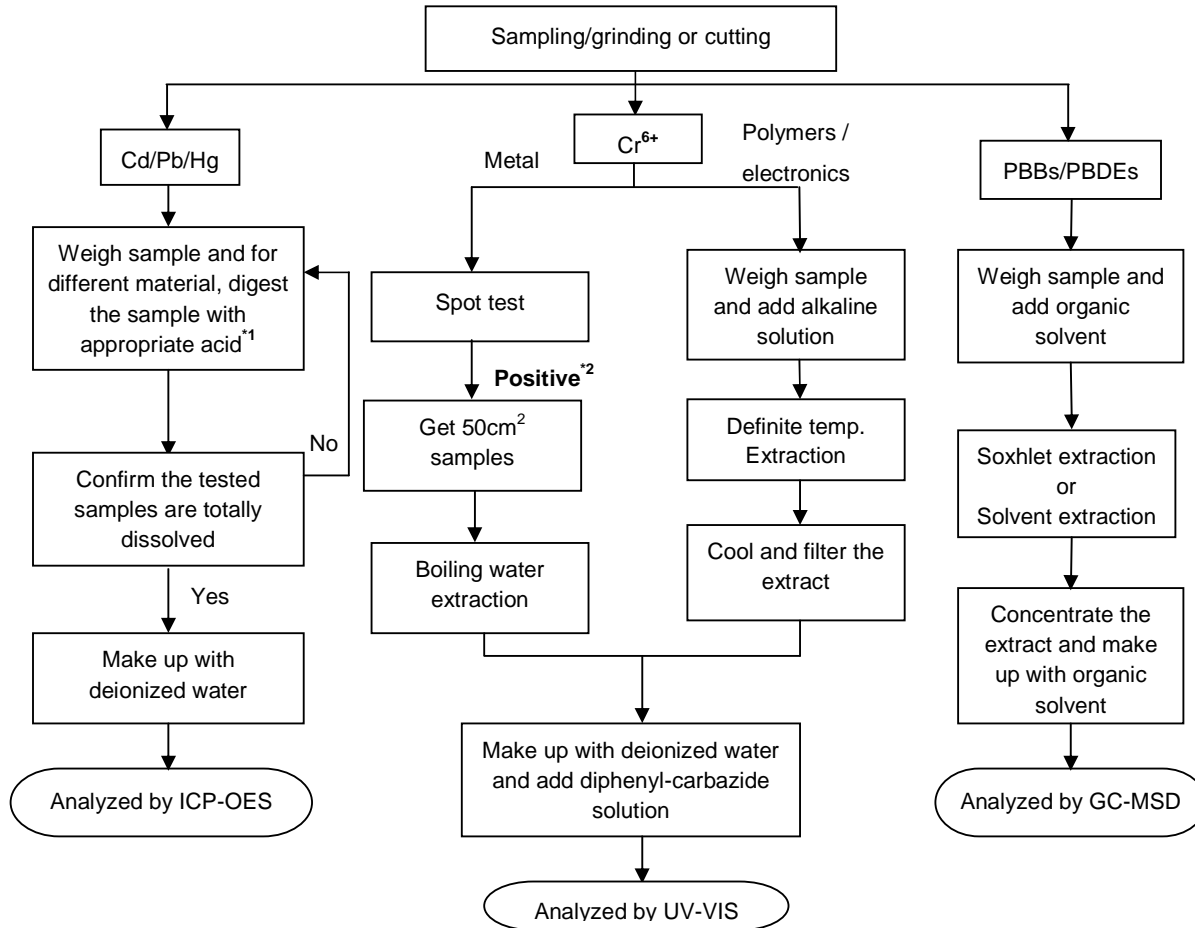
To be continued

Tests Conducted

(D) Measurement flowchart:

Test for Cd/Pb/Hg/Cr (VI)/PBBs/PBDEs contents

Reference standard: IEC 62321 Edition 1.0: 2008&2013



Remarks:

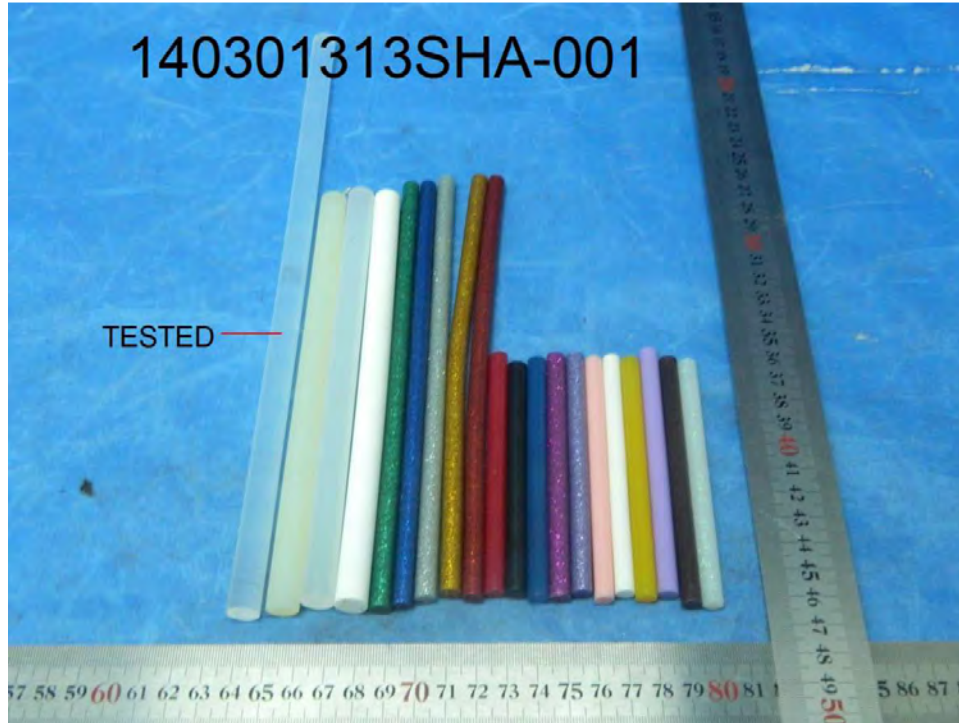
*1: list of appropriate acid:

Material	Acid added for digestion
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If the result of spot test is positive, Chromium VI would be determined as detected.

To be continued

Tests Conducted



End of report

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