

Shenzhen 863 New Material and Technology Co., Ltd

Test Report

Report No.: SAC2018-05015-1E

Date: Sep.28, 2018

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Customer :

Address :

Sample Information:

Sample Name : Charging Cable

Sample Description : Please refer to the following page(s).

Model/P.O. No. : MC17

Item/Lot No. : /

Material : /

Buyer : /

Supplier : /

Manufacturer : /

Received Date : Sep.21, 2018

Test Period : Sep.21, 2018 ~ Sep.28, 2018

Test Requested : As specified by customer, to screen Pb, Cd, Hg, Cr, Br content by XRF and test its accurate content with Chemical method.

Test Method:

Test Item(s)	Test Method	Equipment	MDL
Pb, Cd, Hg, Cr, Br	IEC 62321-3-1:2013	XRF	5mg/kg
Pb, Cd	IEC 62321-5:2013	ICP-OES	2mg/kg
Hg	IEC 62321-4:2013	ICP-OES	2mg/kg
Cr ⁶⁺	IEC 62321-7-2:2017	UV-Vis	2mg/kg
	IEC 62321-7-1:2015		0.10μg/cm ²
PBBs, PBDEs	IEC 62321-6:2015	GC-MS	5mg/kg

Note: /

Test Result(s): Please refer to the following page(s).

Test Conclusion: To test according to the requirements of the customer, the test results of the sample shown in this report do not exceed the required limit of EU RoHS 2011/65/EU.

 Edited by: Rose

 Audited by: Jenny

 Approved by: Sinead

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Test Result(s):

No.	Sample Description	Test Items	Results of XRF (P/F/D)	Results of testing (mg/kg)	Limit (mg/kg)	Unit	Conclusion (P/F)
No.1	Grey metal case (USB port)	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.2	Silvery case (USB port)	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.3	White plastic (USB port)	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	≤1000	mg/kg	P
		PBBs	D	N.D.	≤1000	mg/kg	P
		PBDEs	D	N.D.	≤1000	mg/kg	P
No.4	Silvery pin (USB port)	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.5	Grey metal case (android switch)	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.6	Grey plastic	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	≤1000	mg/kg	P
		PBBs	P	/	≤1000	mg/kg	P
		PBDEs	P	/	≤1000	mg/kg	P

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No.	Sample Description	Test Items	Results of XRF (P/F/D)	Results of testing (mg/kg)	Limit (mg/kg)	Unit	Conclusion (P/F)
No.7	Silvery sheet	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	D	N.D.	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.8	Grey metal case (android switch)	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	D	N.D.	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.9	Big PCB	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺	P	/	≤1000	mg/kg	P
		PBBs	P	/	≤1000	mg/kg	P
		PBDEs	P	/	≤1000	mg/kg	P
No.10	Small PCB	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺	P	/	≤1000	mg/kg	P
		PBBs	P	/	≤1000	mg/kg	P
		PBDEs	P	/	≤1000	mg/kg	P
No.11	Diode (small PCB)	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺	P	/	≤1000	mg/kg	P
		PBBs	P	/	≤1000	mg/kg	P
		PBDEs	P	/	≤1000	mg/kg	P
No.12	Solder	Pb	D	N.D.	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/

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No.	Sample Description	Test Items	Results of XRF (P/F/D)	Results of testing (mg/kg)	Limit (mg/kg)	Unit	Conclusion (P/F)
No.13	Apple charging adapter	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.14	Grey metal case	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.15	Black pvc	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.16	Grey nylon	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	≤1000	mg/kg	P
		PBBs	P	/	≤1000	mg/kg	P
		PBDEs	P	/	≤1000	mg/kg	P
No.17	Black nylon	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	≤1000	mg/kg	P
		PBBs	P	/	≤1000	mg/kg	P
		PBDEs	P	/	≤1000	mg/kg	P
No.18	Red pvc	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/

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No.	Sample Description	Test Items	Results of XRF (P/F/D)	Results of testing (mg/kg)	Limit (mg/kg)	Unit	Conclusion (P/F)
No.19	Green pvc	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.20	Grey pvc	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/
No.21	Copper metal wire	Pb	P	/	≤1000	mg/kg	P
		Cd	P	/	≤100	mg/kg	P
		Hg	P	/	≤1000	mg/kg	P
		Cr ⁶⁺ *	P	/	—	μg/cm ²	/
		PBBs	/	/	≤1000	mg/kg	/
		PBDEs	/	/	≤1000	mg/kg	/

Remark:

- (1) It is the result on total Br while test PBBs and PBDEs by XRF. It is the result on total Cr while test Hexavalent Chromium by XRF.
- (2) Results are obtained by XRF for primary screening, and chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr⁶⁺) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321:2008 (unit: mg/kg).

Element	Polymer	Metal	Composite Materials
Pb	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Cd	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 70 - 3\sigma < D < 130 + 3\sigma \leq F$	$P \leq 50 - 3\sigma < D < 150 + 3\sigma \leq F$
Hg	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 700 - 3\sigma < D < 1300 + 3\sigma \leq F$	$P \leq 500 - 3\sigma < D < 1500 + 3\sigma \leq F$
Cr	$P \leq 700 - 3\sigma < D$	$P \leq 700 - 3\sigma < D$	$P \leq 500 - 3\sigma < D$
Br	$P \leq 300 - 3\sigma < D$	----	$P \leq 250 - 3\sigma < D$

P = PASS, F = FAIL, D = DETECTED

(3) mg/kg = ppm, N.D. = Not Detected (<MDL), MDL=method detection limit

 (4) *a. The sample is positive for Cr⁶⁺ if the Cr⁶⁺ concentration is greater than 0.13μg/cm², The sample coating

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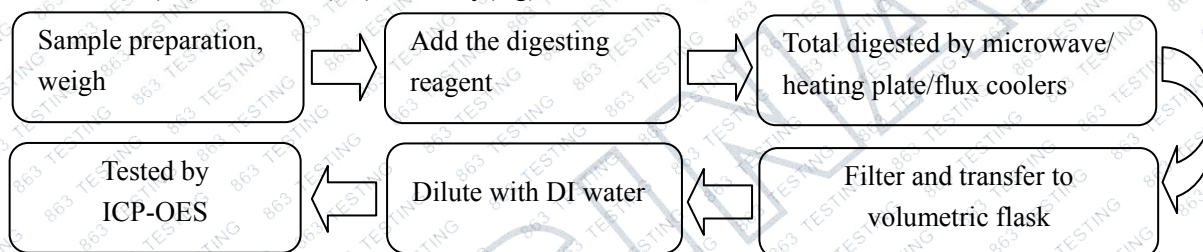
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is considered to contain Cr^{6+}

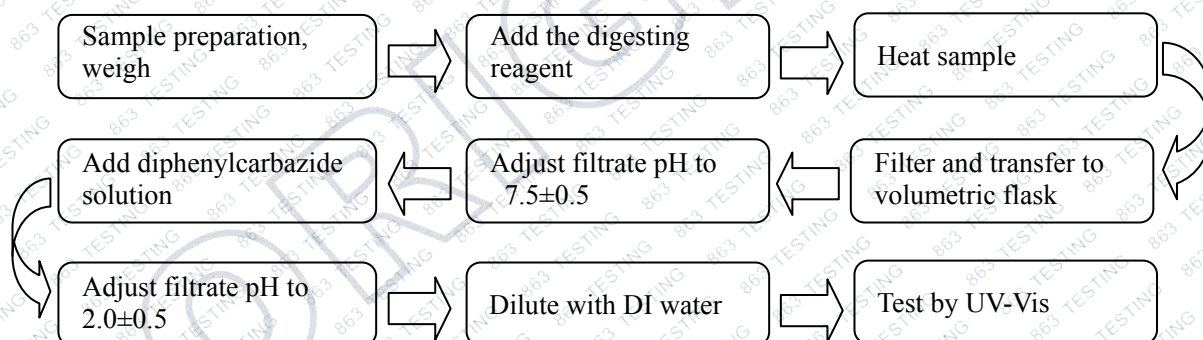
- b. The sample is negative for Cr^{6+} if the Cr^{6+} is N.D. (concentration less than $0.10\mu\text{g}/\text{cm}^2$), The coating is considered a non- Cr^{6+} based coating.
- c. The result between $0.10\mu\text{g}/\text{cm}^2$ and $0.13\mu\text{g}/\text{cm}^2$ is considered to be inconclusive-unavoidable coating variations may influence the determination information on storage conditions and production date of the tested sample is unavailable and thus Cr^{6+} results represent status of the sample at the time of testing.

Test Process:

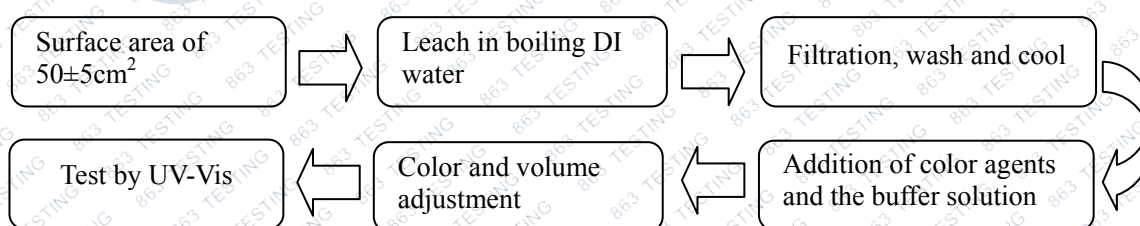
1. Test Lead(Pb), Cadmium(Cd), Mercury(Hg) concentration:



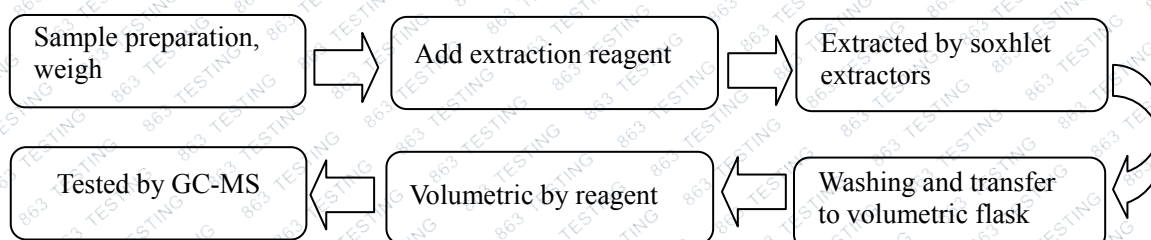
2. Test Hexavalent Chromium(Cr^{6+}) concentration for non-metallic samples:



3. Test Hexavalent Chromium(Cr^{6+}) concentration for metallic samples:



4. Test PBBs, PBDEs concentration:



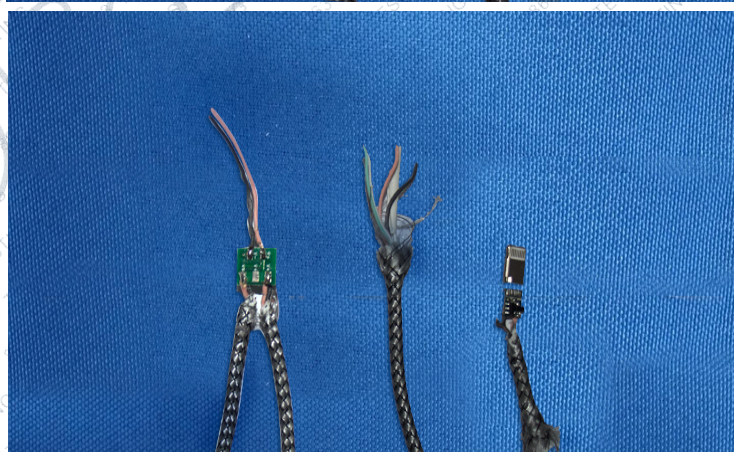
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*** End of report ***

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