

Shenzhen 863 New Material and Technology Co., Ltd

Test Report

Report No.: SAC2018-05014-1E

Date: Sep.27, 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. : MC18

Item/Lot No. : /

Material : /

Buyer : /

Supplier : /

Manufacturer : /

Received Date : Sep.20, 2018

Test Period : Sep.20, 2018~Sep.27, 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	Black 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	Black 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	Silvery 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	Silvery 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	Silvery metal ring	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	Black line skin	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	White cotton	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 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	/

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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 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	/
No.20	Blue 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	/
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≤700-3σ<D<1300+3σ≤F	P≤700-3σ<D<1300+3σ≤F	P≤500-3σ<D<1500+3σ≤F
Cd	P≤70-3σ<D<130+3σ≤F	P≤70-3σ<D<130+3σ≤F	P≤50-3σ<D<150+3σ≤F
Hg	P≤700-3σ<D<1300+3σ≤F	P≤700-3σ<D<1300+3σ≤F	P≤500-3σ<D<1500+3σ≤F
Cr	P≤700-3σ<D	P≤700-3σ<D	P≤500-3σ<D
Br	P≤300-3σ<D	----	P≤250-3σ<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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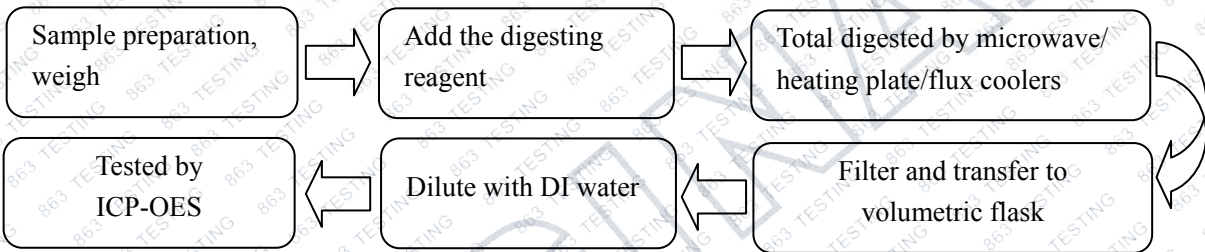
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is considered to contain Cr⁶⁺

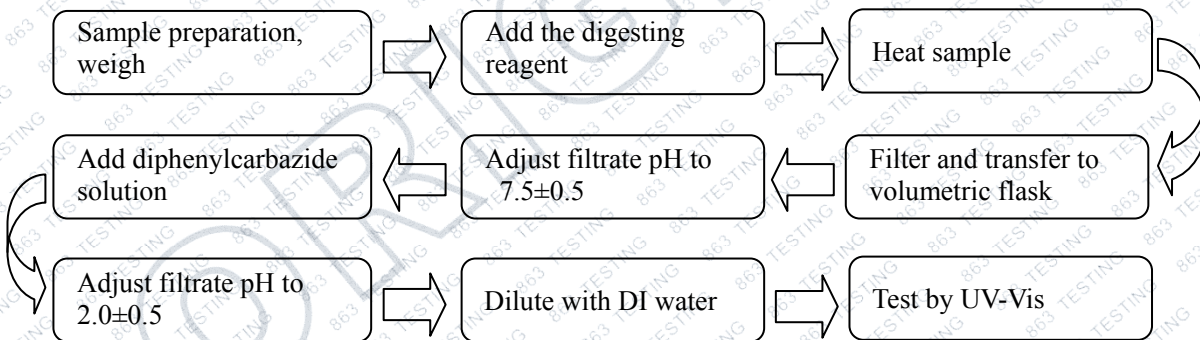
- b. The sample is negative for Cr⁶⁺ if the Cr⁶⁺ is N.D. (concentration less than 0.10μg/cm²), The coating is considered a non-Cr⁶⁺ based coating.
- c. The result between 0.10μg/cm² and 0.13μg/cm² is considered to be inconclusive-unavoidable coating variations may influence the determination information on storage conditions and production date of the tested sample is unavailable and thus Cr⁶⁺ results represent status of the sample at the time of testing.

Test Process:

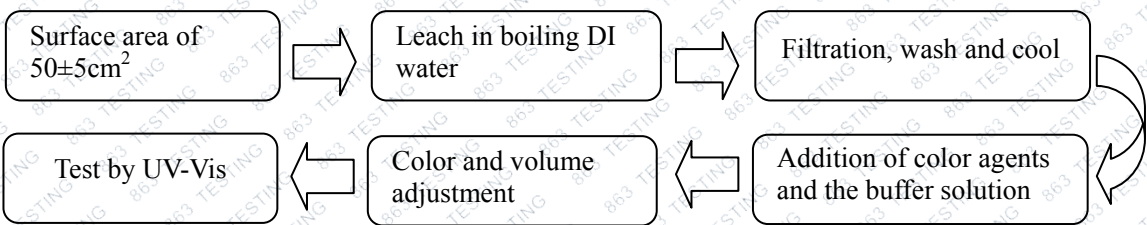
1. Test Lead(Pb), Cadmium(Cd), Mercury(Hg) concentration:



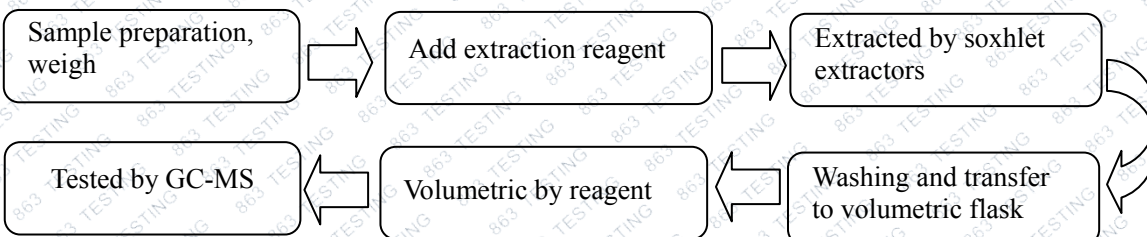
2. Test Hexavalent Chromium(Cr⁶⁺) concentration for non-metallic samples:



3. Test Hexavalent Chromium(Cr⁶⁺) concentration for metallic samples:



4. Test PBBs, PBDEs concentration:



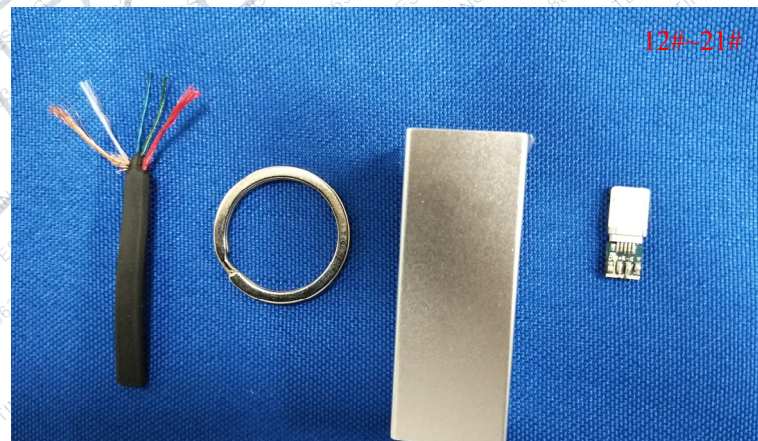
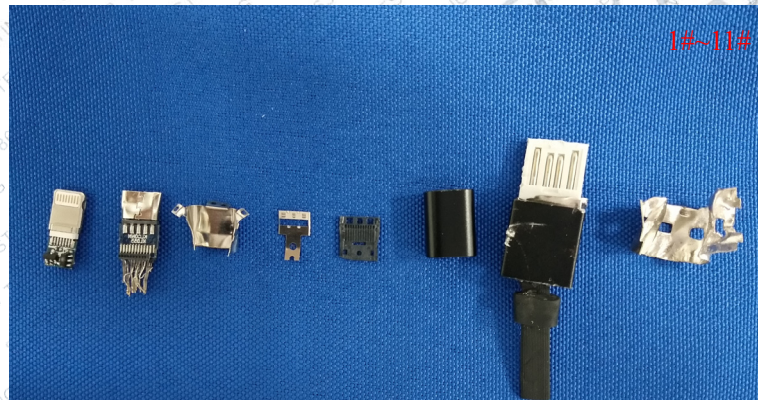
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Photo of the sample



*** End of report ***

This report is invalid without the Special Seal of our Company. This report shall not be altered, increased or deleted. The results shown in this report refer only to the sample(s) tested.

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