

TEST REPORT

Report No. : PN:EE:856000699

DATE : 01/04/2017

856000699

TIBREWALA ELECTRONICS LTD.

6-56/2/40, BOMBAY, HIGHWAY,, BALANAGAR, HYDERABAD
HYDERABAD-500037
INDIA

CONTACT PERSON : P RATNA RAJU

THE FOLLOWING SAMPLE(S) WAS/WERE SUBMITTED AND IDENTIFIED BY/ON BEHALF OF THE CUSTOMER AS :

SAMPLE DESCRIPTION	HARDENER	
COLOUR	LIGHT YELLOW	
STYLE NO.	HARDNER	
REFERENCE NO.	SUPPLIER: BASF	
BUYER	TIBREWALA ELECTRONICS LTD	
BUYING HOUSE	NOT PROVIDED	
COUNTRY OF DESTINATION	INDIA	
COUNTRY OF ORIGIN	INDIA	
SAMPLE RECD ON	24/03/2017	TESTING PERIOD : 29/03/2017 to 01/04/2017
TEST(S) REQUESTED	ROHS 6E TEST	
TEST METHOD	:IEC 62321 : 2008 / 2013 / 2015	

CONCLUSION : Based on the performed tests on selected part of submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), **comply** with the limits as set by Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Test result:

RoHS Directive 2011/65/EU Annex II[amended by Directive (EU) 2015/863]

Test Item(s):	Unit	Test Method	Results	MDL	Limit
Cadmium(Cd)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Cd by ICP-OES)	n.d.	5	100
Lead (Pb)	mg/kg	With reference to IEC 62321-5:2013 (Determination of Pb by ICP-OES)	n.d.	5	1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013 (Determination of Hg by ICP-OES)	n.d.	5	1000
Hexavalent Chromium (CrVI) #	µg/cm ²	With reference to IEC 62321-7-1:2015 (Determination of CrVI by UV-VIS)	--	0.1	--
Hexavalent Chromium (CrVI)	mg/kg	With reference to IEC 62321:2008 (Determination of CrVI by UV-VIS)	n.d.	2	1000
Sum of PBBs	mg/kg	With reference to IEC 62321-6:2015	n.d.	n.d.	1000

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Test Item(s):	Unit	Test Method	Results	MDL	Limit
		(Determination of PBB by GC-MS)			
Monobromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Dibromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Tribromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Hexabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Pentabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Heptabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Octabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Nonabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Decabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBB by GC-MS)	n.d.	50	-
Sum of PBDEs	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	-	1000
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-
Decabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015 (Determination of PBDE by GC-MS)	n.d.	50	-

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Note :

- (a) mg/kg = ppm ; 0.1wt% = 1000ppm
- (b) n.d.= not detected
- (c) MDL = Method Detection Limit
- (d) - = not regulated
- (e) IEC 62321 series is equivalent to EN 62321 series
- (f) Test has been performed on composite part as per client's request
- (g) # =
 - a. The sample is positive for CrVI if the CrVI concentration is greater than $0.13 \mu\text{g}/\text{cm}^2$. The sample coating is considered to contain CrVI
 - b. The sample is negative for CrVI if CrVI is n.d. (concentration less than $0.10 \mu\text{g}/\text{cm}^2$). The coating is considered a non-CrVI 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

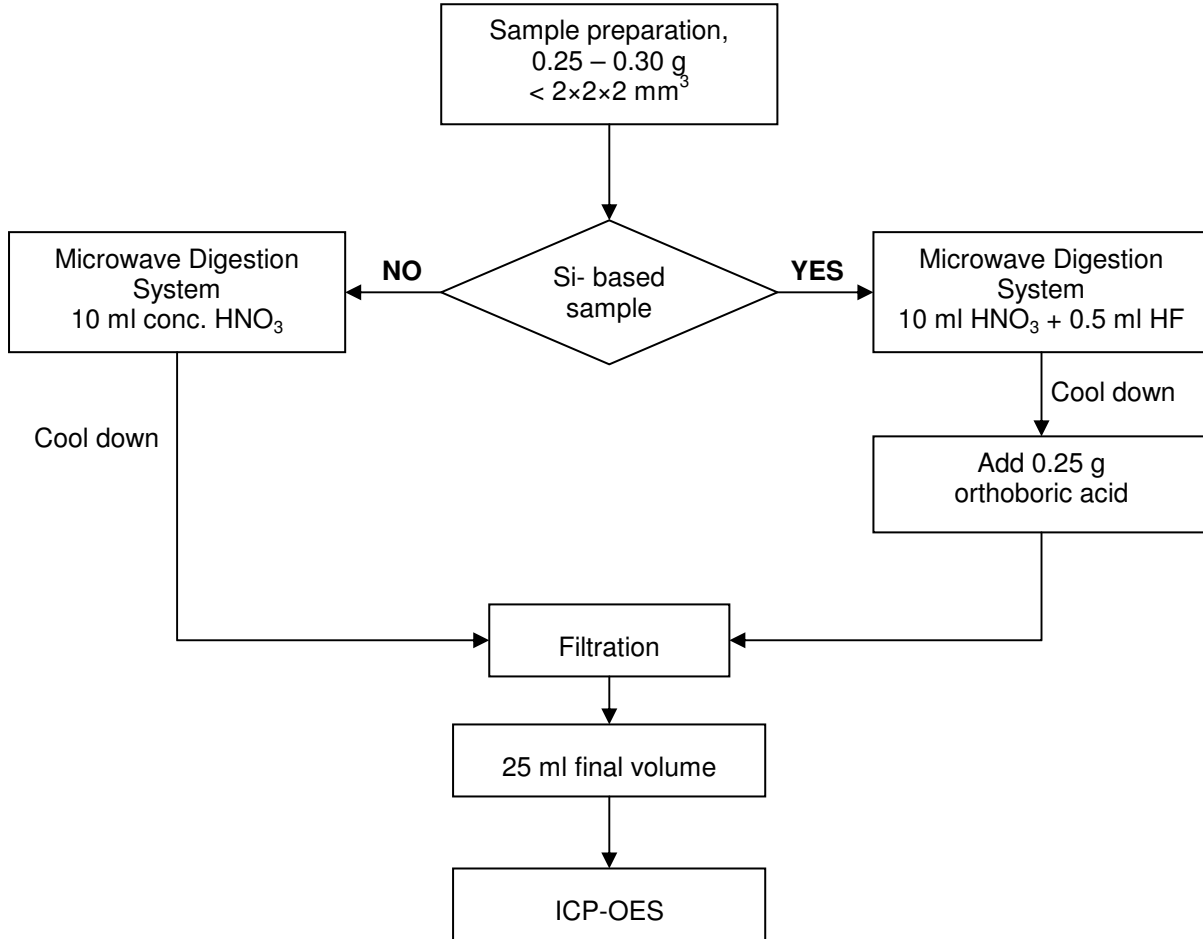
For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing represent status of the sample at the time of testing.

http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

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Process Flow for analysis of metal contents in plastics, metals and electronic components sample



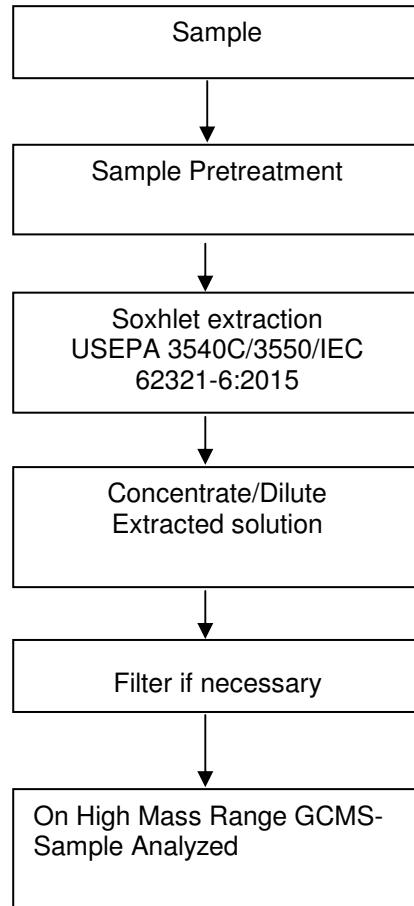
Analyzed By: Deepali Binawade

Checked By: Amit Kulkarni

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Process Flow for analysis of Flame Retardants in plastics, metals and electronic components sample



Analyzed By : Sachin Vibhute

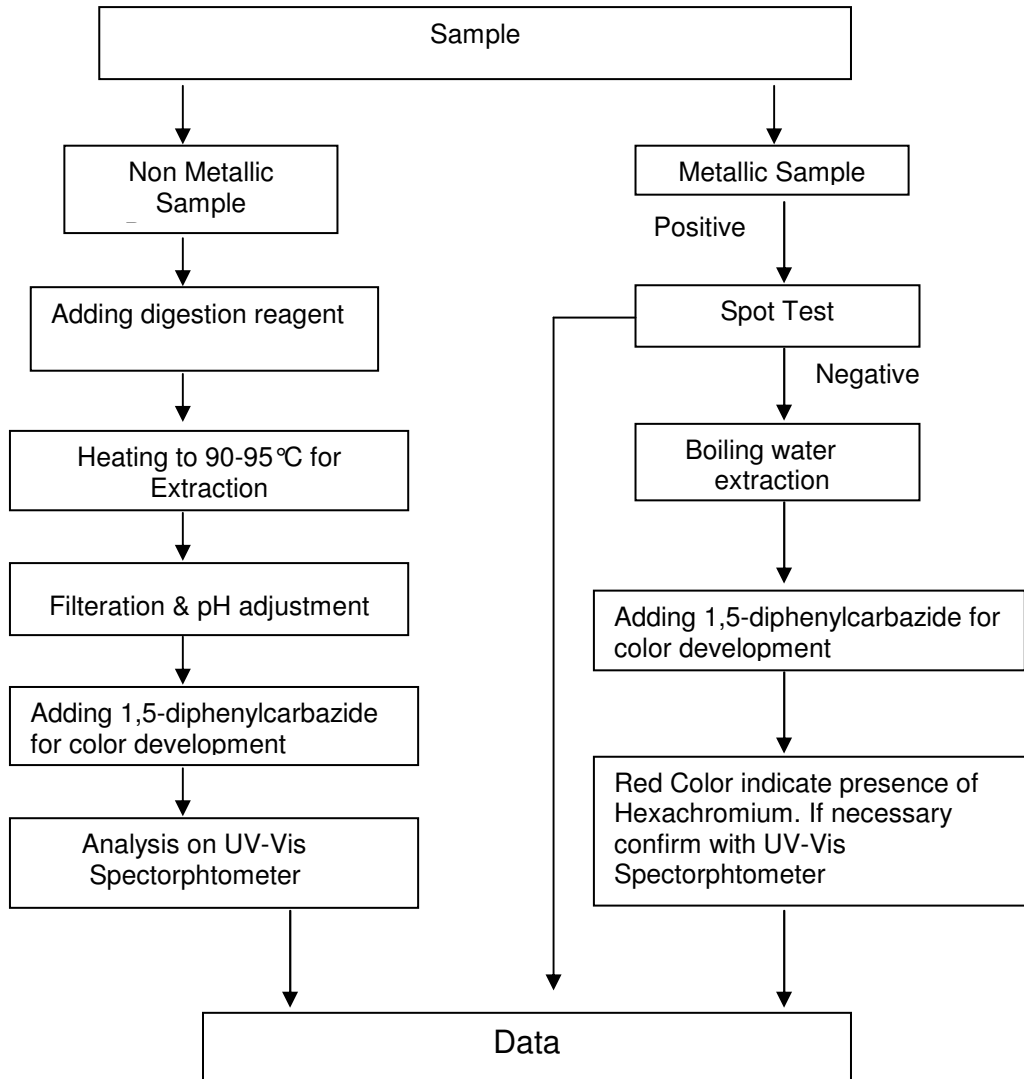
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Process Flow for analysis of Hexachromium contents in plastics, metals and electronic components

sample



Analyzed By: Sachin Vibhute

Checked By: Amit Kulkarni

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TEST REPORT

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8560000699

Sample Photo:



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*** End of Report ***

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