

TEST REPORT

Report No. : PN:HL:6490005368

DATE : 25/05/2015

RAYCHEM RPG (P) LTD.
 1/62, OFF WESTERN EXPRESS HIGHWAY,, VASAI (EAST) THANE
 THANE-401208
 INDIA
CONTACT PERSON : GAURAV KHANGAN

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

SAMPLE DESCRIPTION	JUNCTION BOX-ENCLOSURES
COLOUR	GREY
ORDER NUMBER	GRADE : ALSID 12
REFERENCE NO.	RAW MATERIAL : ALUMINIUM
SAMPLE RECD ON	06/05/2015 TESTING PERIOD : 19/05/2015 to 25/05/2015
TEST(S) REQUESTED	ROHS TEST (6E) + PHTHALATE TEST
TEST METHOD	:IEC 62321 : 2008 / 2013

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 RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Test result:

RoHS Directive 2011/65/EU Annex II

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) by Spot test / boiling water extraction (optional) #	--	With reference to IEC 62321:2008	#Negative	--	--
Sum of PBBs	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	n.d.	1000
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008	n.d.	50	-

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Test Item(s):	Unit	Test Method	Results	MDL	Limit
		(Determination of PBB by GC-MS)			
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008 (Determination of PBB by GC-MS)	n.d.	50	-
Sum of PBDEs	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	-	1000
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-
Decabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008 (Determination of PBDE by GC-MS)	n.d.	50	-

Note :

- (a) mg/kg = ppm ; 0.1wt% = 1000ppm
- (b) n.d.= not detected
- (c) MDL = Method Detection Limit
- (d) - = not regulated
- (e) Test has been performed on composite part as per client's request

* = not regulated# = a. Positive means the presence of CrVI on the tested areas

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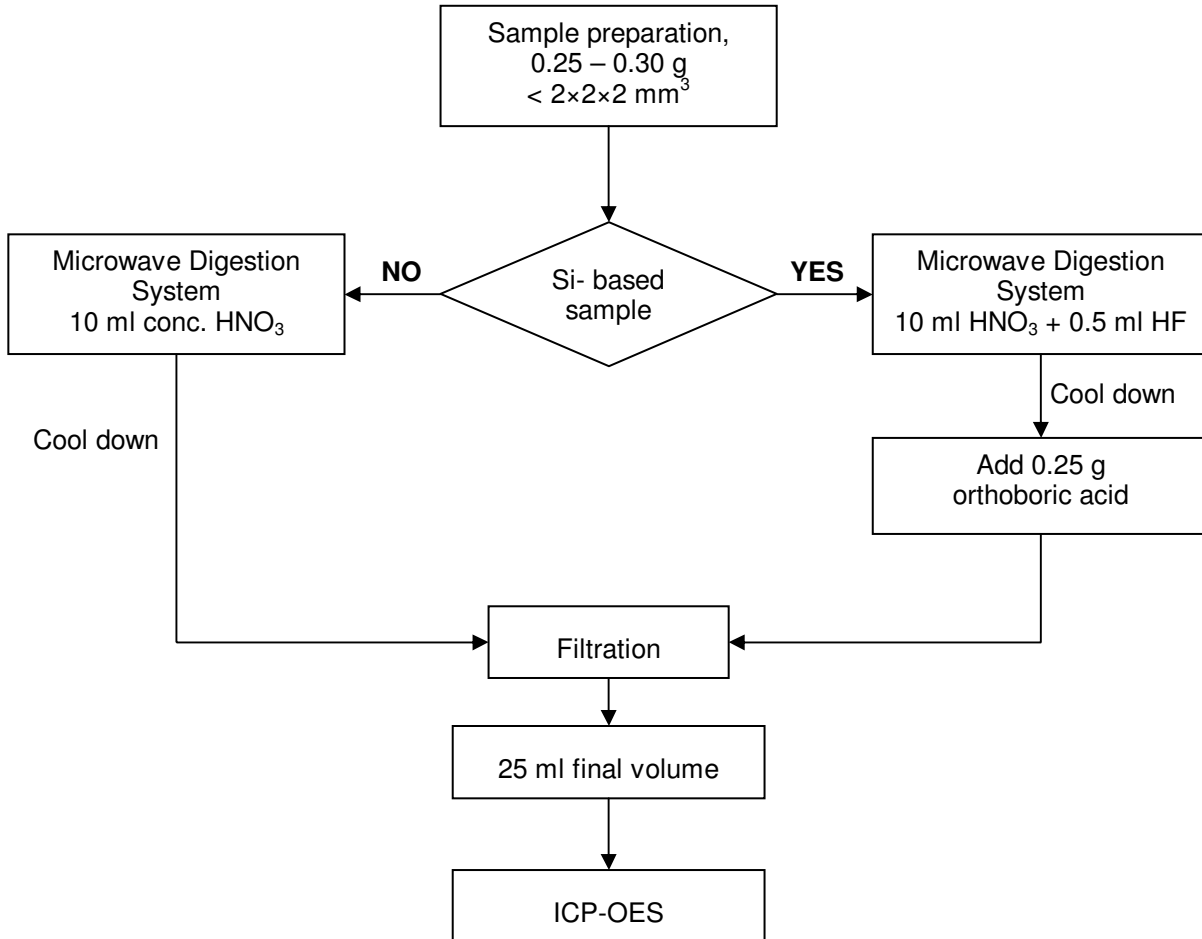
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b. Negative means the absence of CrVI on the tested areas
 For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample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

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



Analyzed By: Vijaykumar Phapale

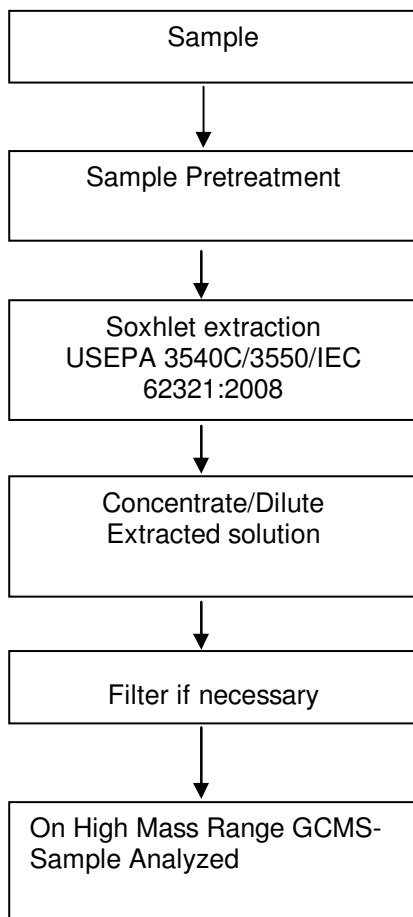
Checked By: Amit Kulkarni

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



Analyzed By : Sachin Vibhute

Checked By : Amit Kulkarni

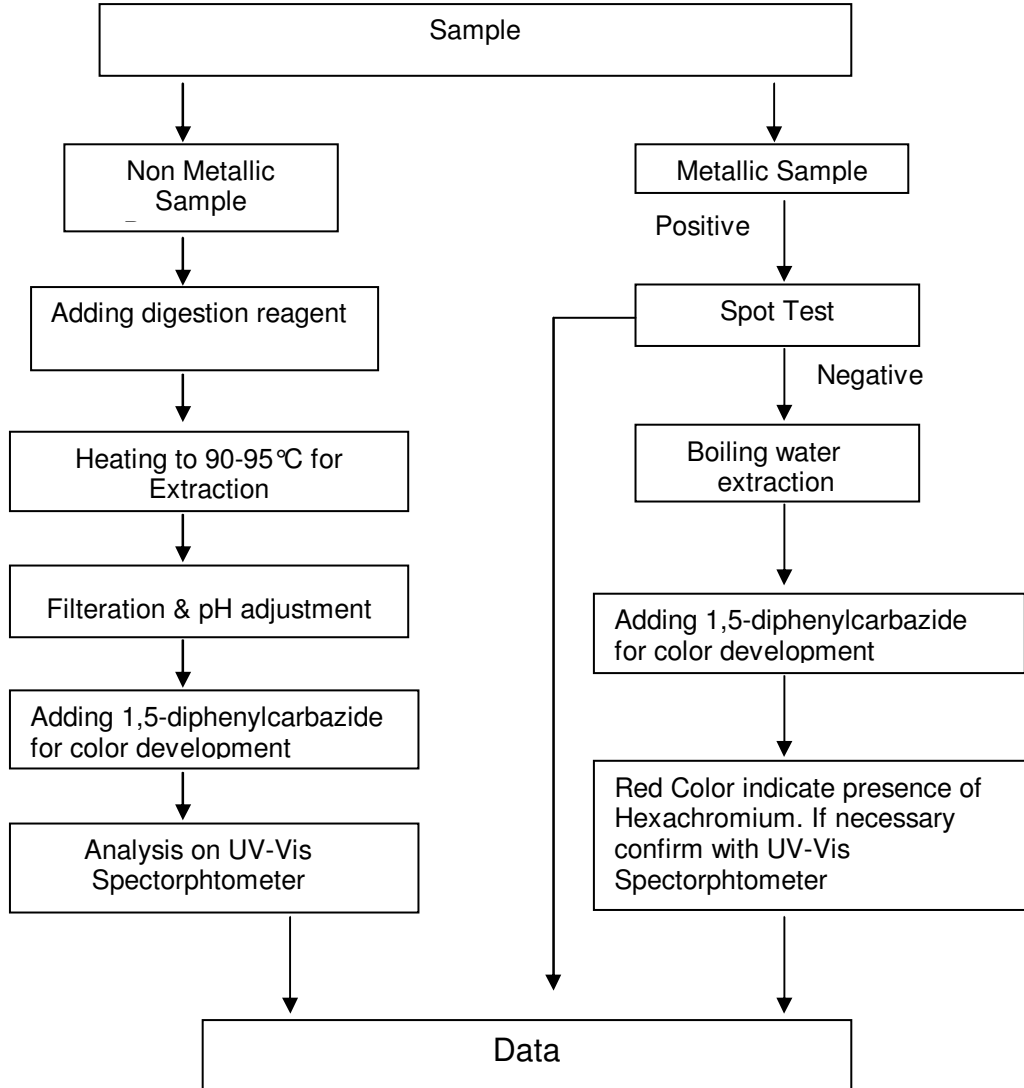
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Process Flow for analysis of Hexachromium contents in plastics, metals and electronic components

sample



Analyzed By: Sachin Vibhute

Checked By: Amit Kulkarni

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Test Result(s) : PHTHALATES in 'Coating Part of JUNCTION BOX-ENCLOSURES'

European Regulation (EC) No. 1907/2006 (REACH) Annex XVII and its amendments

Test Method: With reference to EN 14372: 2002 - Analysis was conducted by GC-MS.

Substance Name	Result (%)	Client requirement/ Recommended Max. Limit (%)
	1	
For all childcare articles:		
Dibutyl Phthalate (DBP)	ND (DL = 0.004)	/
Benzylbutyl Phthalate (BBP)	ND (DL = 0.004)	/
Bis-(2-ethylhexyl) Phthalate (DEHP)	ND (DL = 0.004)	/
Total (DBP+BBP+DEHP)	<0.1	0.1
Conclusion	PASS	

Diisononyl Phthalate (DINP)	ND (DL = 0.016)	/
Di-n-octyl Phthalate (DNOP)	ND (DL = 0.004)	/
Diisodecyl Phthalate (DIDP)	ND (DL = 0.016)	/
Total (DINP+DNOP+DIDP)	<0.1	0.1
Diisobutyl Phthalate (DIBP)	ND (DL = 0.004)	0.1
Conclusion	Pass	

Sample Description : 1 'Coating Part of JUNCTION BOX-ENCLOSURES'

- Note:**
- 1) ND = not detected
 - 2) < = Less than, > = Greater than
 - 3) % = percentage by weight
 - 4) DL = Detection limit:

Remark: Permissible limit specified by entries 51 and 52 of regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).

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Sample Photo: as Received



***** End of Report*****

Per Pro SGS India Private Ltd

Authorized Signatory

Email your Test Report Related Enquiries at Feedback.HLT@sgs.com

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