

Test Report No. 5721480

Date : 10-Jan-2020

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Client : IRPC Public Company Limited
555/2,Energy Complex,Building B,6 th Floor, Vibhavadi Rangsit Road,
Chatuchak Bangkok 10900 Thailand

The following sample(s) was/were submitted and identified by/on behalf of the client as:

Sample Name : PP Homo Polymer Grade : 1100NK
 Sample No. : 3752291
 Sample Condition : Sample is contained in a plastic bag.
 Quantity Submitted : 1 bag
 Manufacturer/Vendor : IRPC
 Country of Origin : Thailand

Sample Receiving Date : 06-Jan-2020
 Testing Period : 06-Jan-2020 to 10-Jan-2020

Test Requested : In accordance with the RoHS Directive 2011/65/EU (Annex II) [amended by Directive (EU) 2015/863] (Restricted Substances : Pb , Cd , Hg , Cr(VI) , PBBs , PBDEs

Test Method : (1) IEC 62321-5 edition 1.0 : 2013 for Lead content, Analyzed by ICP-OES.
 Microwave digestion method
 (2) IEC 62321-5 edition 1.0 : 2013 for Cadmium content, Analyzed by ICP-OES.
 Microwave digestion method
 (3) IEC 62321-4 edition 1.0 : 2013 for Mercury content, Analyzed by ICP-OES.
 Microwave digestion method
 (4) IEC 62321 edition 1.0 : 2008 Annex C for Hexavalent Chromium Content, Analyzed by UV/Vis Spectrometry.
 (5) IEC 62321-6 edition 1.0 : 2015 for PBBs/PBDEs content, Analyzed by GC/MS.
 (6) With reference to IEC 62321-8 : 2017, Analysis was performed by GC/MS.

Test Results : Please refer to next page.

CONCLUSION

Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of
SGS (Thailand) Limited



Patcharee Treeporncharoen
Laboratory manager - Chemical

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TEST RESULTS

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result (1)	MDL	RoHS Limit
Lead (Pb)	(1)	n.d.	2	1000
Cadmium (Cd)	(2)	n.d.	2	100
Mercury (Hg)	(3)	n.d.	2	1000
Hexavalent Chromium (CrVI) by Alkaline Digestion/Colorimetric Method	(4)	n.d.	2	1000

Test Part Description

Result (1) translucent plastic

Note :

(a) mg/kg = ppm ; 0.1wt% = 1000 ppm

(b) n.d. = Not Detected

(c) MDL = Method Detection Limit

(d) Test done on client submitted sample

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Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result (1)	MDL	RoHS Limit
Sum of PBBs	(5)	n.d.	-	1000
Monobromobiphenyl		n.d.	5	-
Dibromobiphenyl		n.d.	5	-
Tribromobiphenyl		n.d.	5	-
Tetrabromobiphenyl		n.d.	5	-
Pentabromobiphenyl		n.d.	5	-
Hexabromobiphenyl		n.d.	5	-
Heptabromobiphenyl		n.d.	5	-
Octabromobiphenyl		n.d.	5	-
Nonabromobiphenyl		n.d.	5	-
Decabromobiphenyl		n.d.	5	-

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Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result (1)	MDL	RoHS Limit
Sum of PBDEs	(5)	n.d.	-	1000
Monobromodiphenyl ether		n.d.	5	-
Dibromodiphenyl ether		n.d.	5	-
Tribromodiphenyl ether		n.d.	5	-
Tetrabromodiphenyl ether		n.d.	5	-
Pentabromodiphenyl ether		n.d.	5	-
Hexabromodiphenyl ether		n.d.	5	-
Heptabromodiphenyl ether		n.d.	5	-
Octabromodiphenyl ether		n.d.	5	-
Nonabromodiphenyl ether		n.d.	5	-
Decabromodiphenyl ether		n.d.	5	-

Test Part Description

Result (1) translucent plastic

Note :

- (a) mg/kg = ppm ; 0.1 wt% = 1000 ppm
- (b) n.d. = Not Detected
- (c) MDL = Method Detection Limit
- (d) "-" = Not regulated
- (e) Test done on client submitted sample

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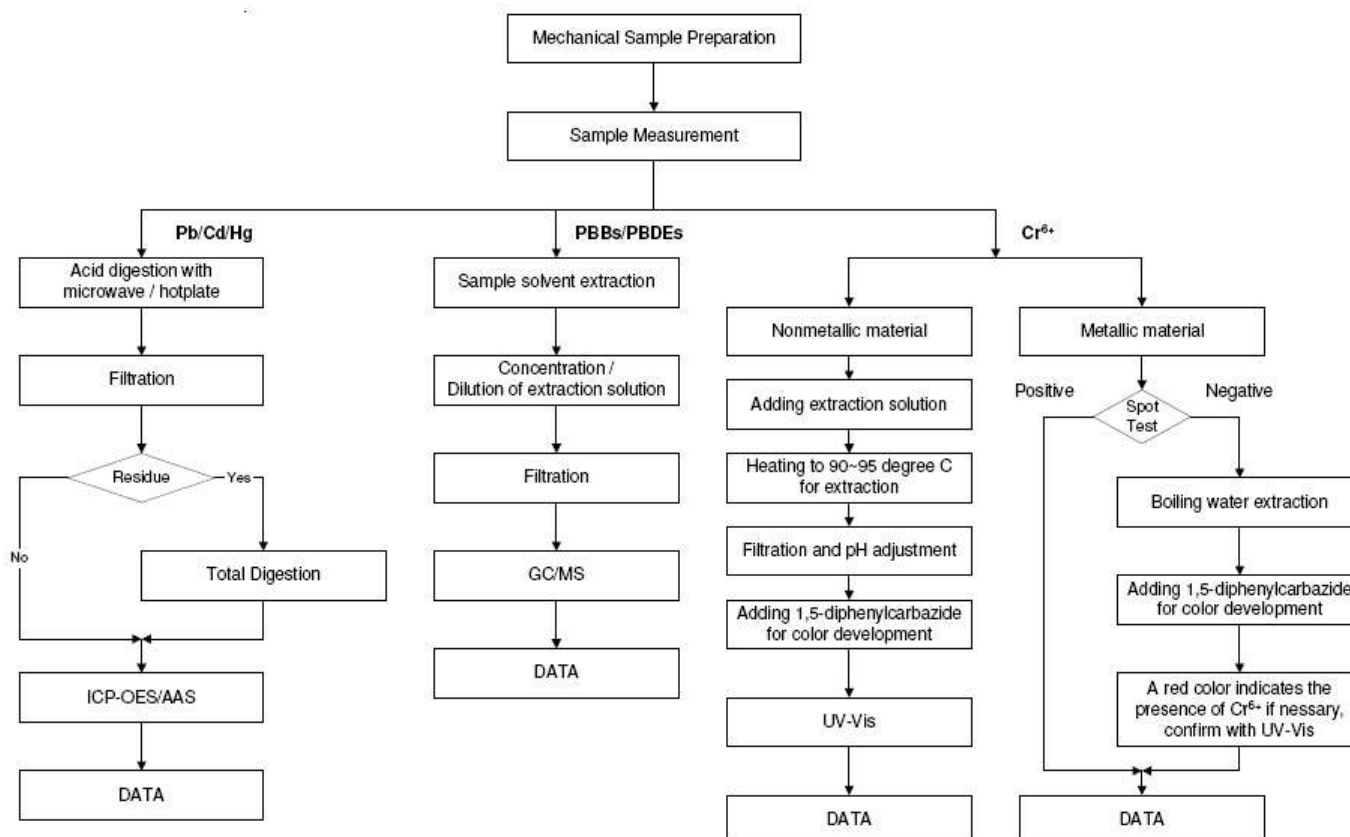
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Flow Chart for IEC 62321 : Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing

1. Operator : Siam Polarwut
2. Section Chief : Patcharee Treeporncharoen
3. The sample was dissolved totally by pre-conditioning method according to below flowchart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



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SAMPLE/ATTACHMENT PICTURE



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

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