Test Report No. 4337637 Date : 19-Aug-2019

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	:	1126NK
Manufacturer/Vendor	:	IRPC
Country of Origin	:	Thailand

The following sample(s) was/were identified by SGS as:

SGS Sample No.	:	4489138
Sample Condition	:	Sample is contained in a plastic bag.
Quantity Submitted	:	1 bag
Sample Receiving Date	:	9-Aug-2019
Testing Period	:	09-Aug-2019 to 19-Aug-2019
Test Requested	:	In accordance with the RoHS Directive 2011/65/EU (Annex II) [amended by Directive (EU) 2015/863] .Selected test (s) as requested by client.
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 1.1 : 2017 for Mercury content,Analyzed by ICP-OES. Microwave digestion method (4) IEC 62321-7-2 edition 1.0 : 2017,determination of Hexavalent Chromium For Insoluble polymer by Colorimetric Method using UV-Vis.and/or with reference to IEC 62321-5:2013,determination of Chromium by ICP-OES. (5) IEC 62321-6 edition 1.0 : 2015 for PBBs/PBDEs content, Analyzed by GC/MS. (6) IEC 62321-8 edition 1.0 : 2017 for Phthalates content,Analyzed was performed by GC/MS.
Test Results	:	Please refer to next page.

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CONCLUSION

Based on the performed tests on submitted sample(s), the results of Cadmium (Cd), Lead (Pb), Mercury (Hg), Hexavalent chromium (Cr-VI), 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 T.

Patcharee Treeporncharoen
Laboratory manager - Chemical

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Test Report No. 4337637 Date : 19-Aug-2019

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 (Cr(VI))	(4)	n.d.	8	1000

Test Part Description
Result (1) translucent plastic

Note :
(a) mg/kg = ppm ; 0.1wt% = 1000 ppm
(b) n.d. = Not Detected (<MDL)
(c) MDL = Method Detection Limit
(d) Test done on client submitted sample
(e) The result of Hexavalent Chromium (Cr(VI)) is "ND" as the result of Chromium (Cr) is "ND", and confirmation test of Hexavalent Chromium (Cr(VI)) is not required.
(f) If the Chromium (Cr) content is greater than the MDL of Hexavalent Chromium (Cr(VI)), confirmation test of Hexavalent Chromium (Cr(VI)) is required.

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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
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

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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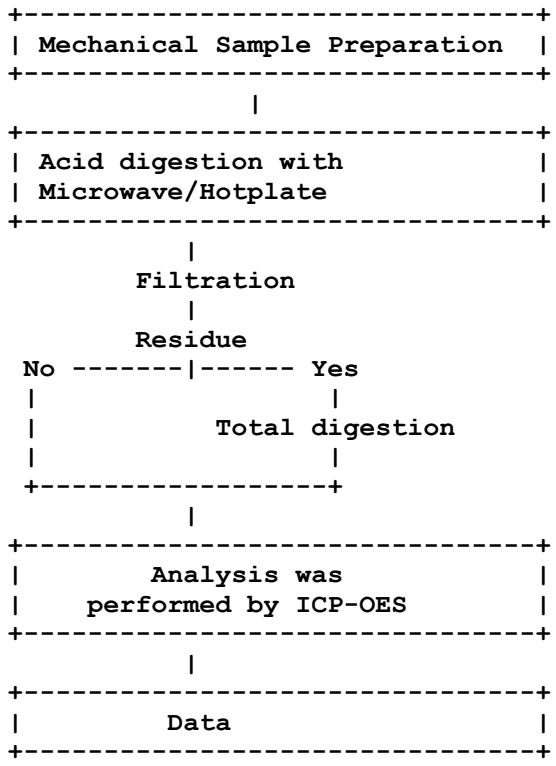
Flow chart of Pb,Cd,Hg Testing

(Test method : IEC 62321)



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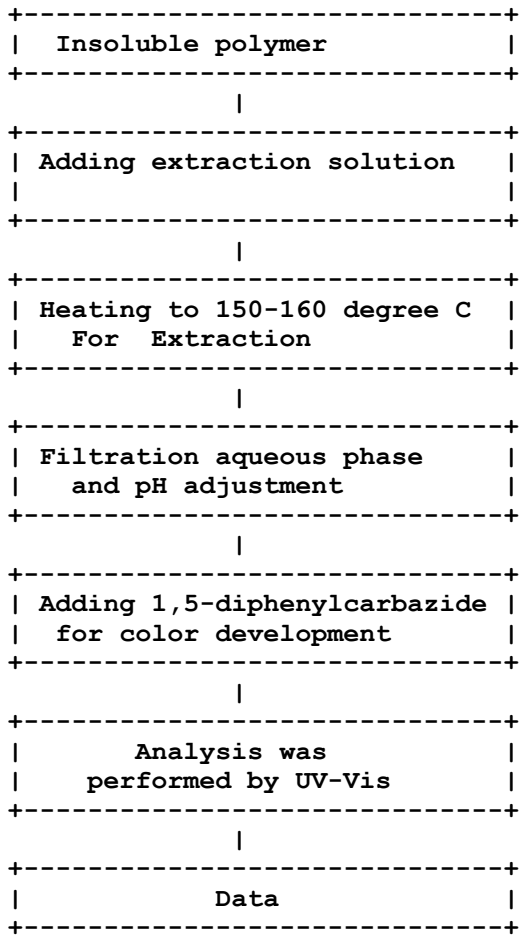
Flow chart of Hexavalent Chromium Testing

(Test method : IEC 62321)



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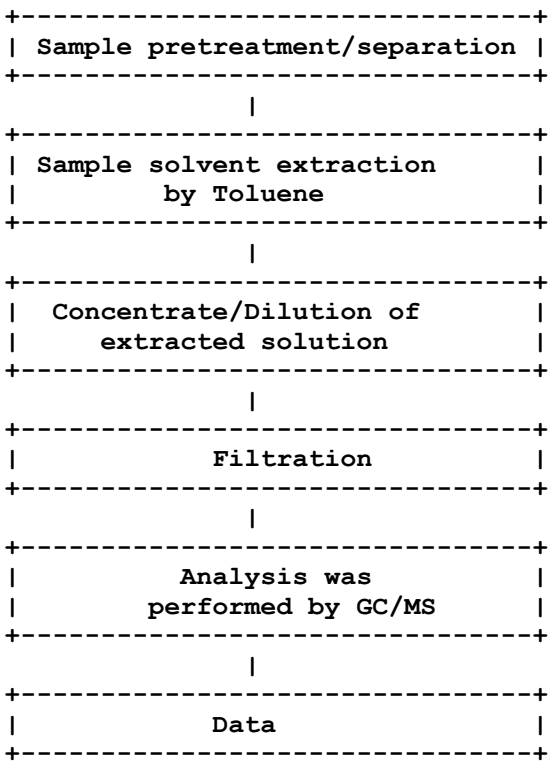
Flow chart of PBBs,PBDEs Testing

(Test method : IEC 62321)



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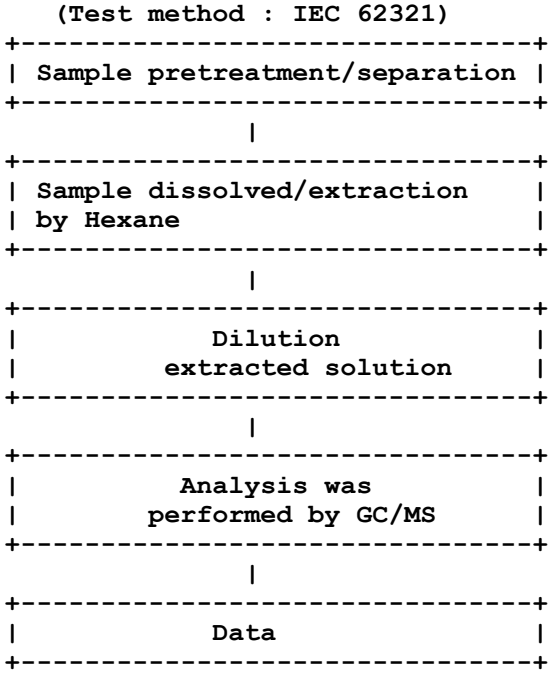
Flow chart of Phthalates Testing



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SAMPLE/ATTACHMENT PICTURE

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

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