

**Test Report No.** 3950147

Date : 19-Jul-2018

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**Client : Panasonic Manufacturing Ayuthaya Co.,Ltd.**  
**1/69 Moo 5, Rojana Road,**  
**Tambol Kanham, Amphur Uthai, Phra Nakhon Si Ayutthaya 13210 Thailand**

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

Sample Name : Compounded Plastic (Epoxy Encapsulation Material)  
 Sample No. : 4076526  
 Sample Condition : Sample is contained in a plastic bag.  
 Quantity Submitted : 1 bag  
 Part No. : CV84XX  
 Batch/Lot No. : 863032  
 Country of Origin : Thailand  
 Buyer's Name : Panasonic group

Sample Receiving Date : 16-Jul-2018  
 Testing Period : 16-Jul-2018 to 19-Jul-2018

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.

Test Results : Please refer to next page.

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

Test Part Description  
Result (1) black compound

**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) black compound

Note :

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

(b) n.d. = Not Detected

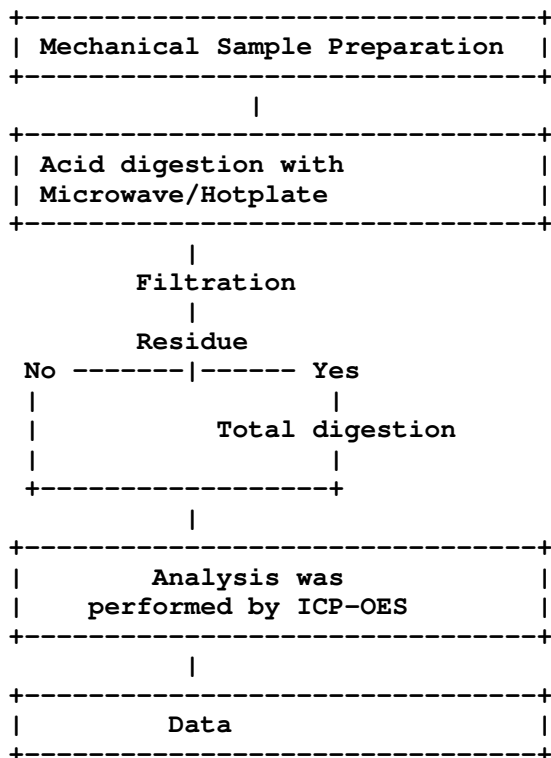
(c) MDL = Method Detection Limit

(d) "-" = Not regulated

(e) Test done on client submitted sample

Flow chart of Pb,Cd,Hg Testing

(Test method : IEC 62321)



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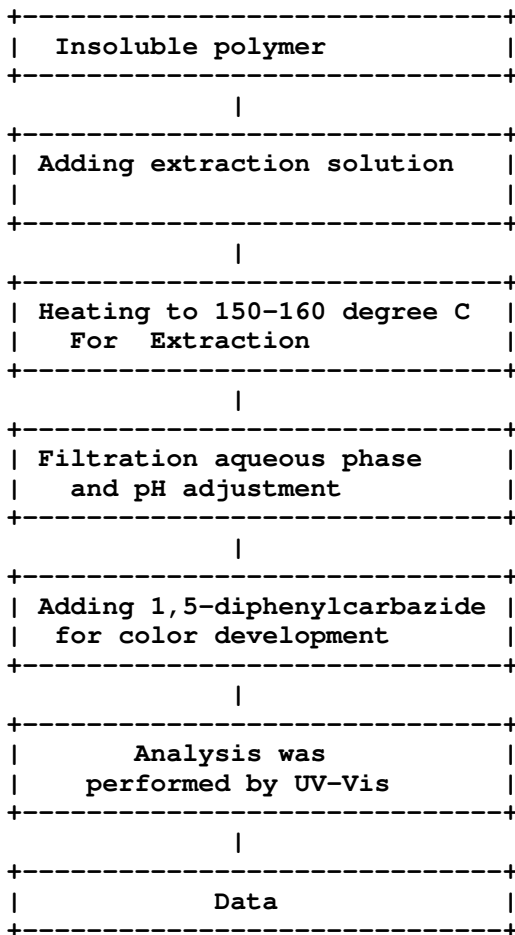
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Flow chart of Hexavalent Chromium Testing

(Test method : IEC 62321)

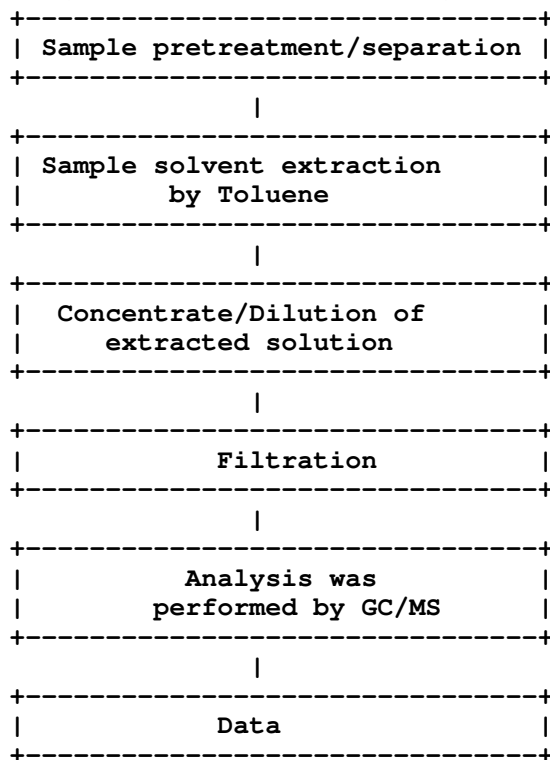


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Flow chart of PBBs, PBDEs Testing

(Test method : IEC 62321)



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SAMPLE/ATTACHMENT PICTURE



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

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