

**Test Report No.** 4604188

**Date :** 22-May-2020

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**Client : Giantlok (Thailand) Co.,Ltd.  
262/10 Moo3,T.Bowin  
Sriracha Chonburi 20230 Thailand**

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

Sample Name : CABLE TIES  
Sample Description : CABLE TIES  
Part No. : PA66 (COLOR)  
Manufacturer/Vendor : ASCEND PERFORMANCE MATERIALS LLC  
Country of Origin : USA

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

SGS Sample No. : 4772596  
Sample Condition : Sample is contained in a plastic bag.  
Quantity Submitted : 1 bag  
Sample Receiving Date : 13-May-2020  
Testing Period : 13-May-2020 to 22-May-2020

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 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 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) black 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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TEST RESULTS

Phthalates Content for RoHS Directive 2011/65/EU Annex II [amended by Directive (EU) 2015/863], Analysis was performed by GC/MS.

Test item (s) :	Method (Refer to 6)	Result (1) (mg/kg)	MDL	RoHS Limit (mg/kg)
DEHP (Di-2-ethylhexyl phthalate) (CAS No.: 117-81-7)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000
BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000
DBP (Di-butyl phthalate) (CAS No.: 84-74-2)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000
DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	IEC 62321-8 , Edition 1.0 , 2017	n.d.	50	1000

Note :

- (a) mg/kg = ppm ; 0.1 wt% = 1000 ppm
- (b) n.d. = Not Detected
- (c) MDL = Method Detection Limit
- (d) Result (1) black plastic
- (e) Test done on client submitted sample

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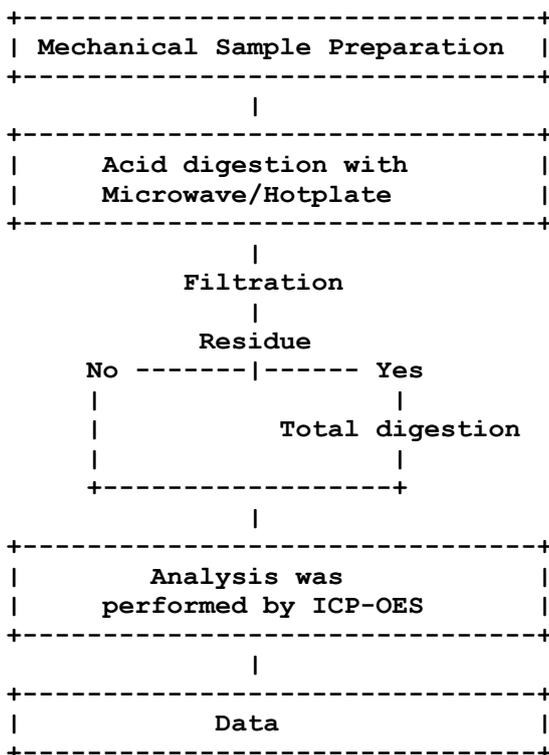
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Flow chart of Pb,Cd,Hg Testing

(Test method : IEC 62321)



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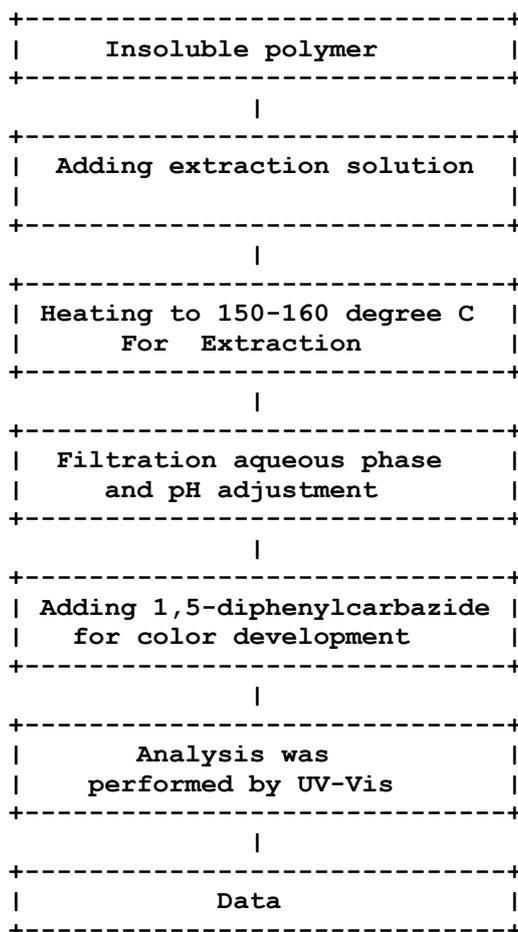
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Flow chart of Hexavalent Chromium Testing

(Test method : IEC 62321)



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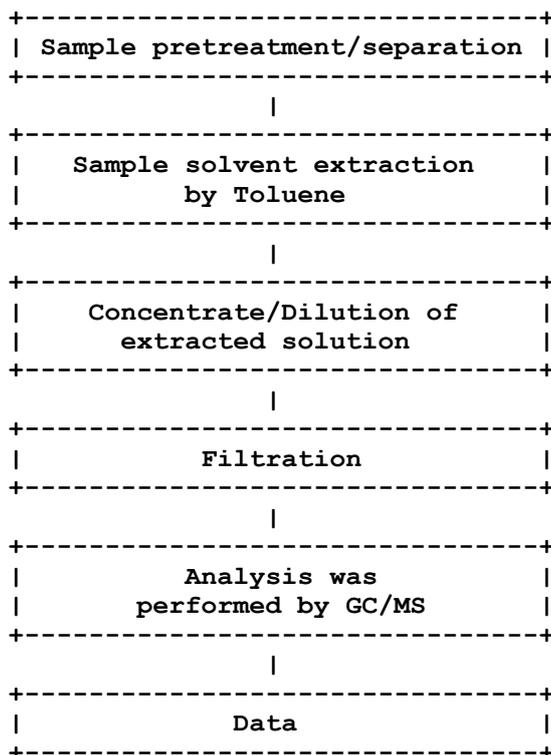
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Flow chart of PBBs, PBDEs Testing

(Test method : IEC 62321)



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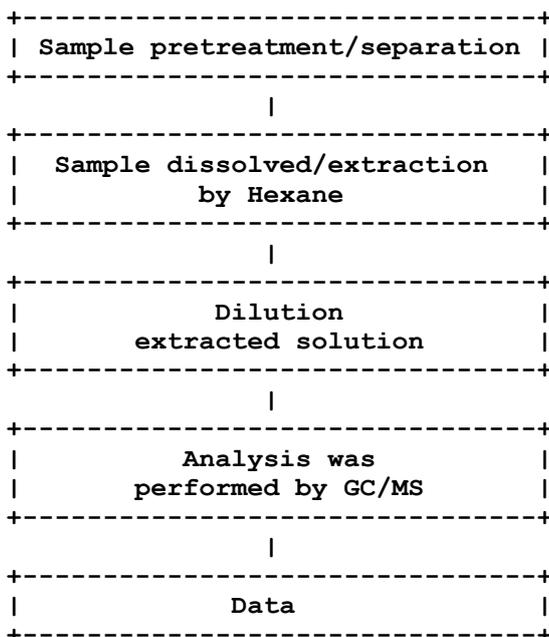
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Flow chart of Phthalates Testing

(Test method : IEC 62321)



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SAMPLE/ATTACHMENT PICTURE



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