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KINGBOARD LAMINATES HOLDINGS LIMITED

2/F.,HARBOUR VIEW 1,NO.12 SCIENCE PARK EAST AVENUE,PHASE II HONG KONG SCIENCE PARK, SHATIN, N.T. HONG KONG

This report is to supersede test report CANEC1412353601

The following sample(s) was/were submitted and identified on behalf of the clients as : KB-1150

SGS Job No. :	CP14-041134 - GZ
Model No. :	KB-1150
Client Ref. Info. :	KB-150(DM/DMB),KB-150(TNI/TBI),KB-150(DOUBLE COLOR BROAD)
Date of Sample Received :	29 Jul 2014
Testing Period :	29 Jul 2014 - 04 Aug 2014
Test Requested :	Selected test(s) as requested by client.
Test Method :	Please refer to next page(s).
Test Results :	Please refer to next page(s).
Conclusion :	Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of SGS-CSTC Ltd.

Trophy Zhang Approved Signatory



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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN14-123536.001	Brown sheet(only test brown part without green "KB" printing)

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive 2011/65/EU

Test Method: (1)With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES. (2)With reference to IEC 62321-5:2013, determination of Lead by ICP-OES. (3)With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES. (4)With reference to IEC 62321:2008, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.

(5) With reference to IEC 62321:2008, determination of PBBs and PBDEs by GC-MS.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	MDL	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND



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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>		
Dibromodiphenyl ether	-	mg/kg	5	ND		
Tribromodiphenyl ether	-	mg/kg	5	ND		
Tetrabromodiphenyl ether	-	mg/kg	5	ND		
Pentabromodiphenyl ether	-	mg/kg	5	ND		
Hexabromodiphenyl ether	-	mg/kg	5	ND		
Heptabromodiphenyl ether	-	mg/kg	5	ND		
Octabromodiphenyl ether	-	mg/kg	5	ND		
Nonabromodiphenyl ether	-	mg/kg	5	ND		
Decabromodiphenyl ether	-	mg/kg	5	ND		

Notes :

(1) The maximum permissible limit is quoted from the directive 2011/65/EU, Annex II.

Halogen

Test Method : With reference to EN 14582: 2007, analysis was performed by Ion Chromatograph (IC).

Test Item(s)	<u>Unit</u>	MDL	<u>001</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	123
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Formaldehyde

Test Method : With reference to ISO 14184-1:2011, analysis was performed by UV-Vis.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	MDL	<u>001</u>
Free & Hydrolyzed Formaldehyde	50-00-0	mg/kg	16	ND

Hexabromocyclododecane (HBCDD)

Test Method : Determination of HBCDD by GC-MS based on IEC 62321:2008.

Test Item(s)	<u>Unit</u>	MDL	<u>001</u>
Hexabromocyclododecane (HBCDD)	mg/kg	10	ND



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Notes :

 Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC: Hexabromocyclododecane (HBCDD) is considered as a priority for risk evaluation and substance restriction.

PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid)

Test Method : With reference to US EPA Method 3550C: 2007, analysis was performed by HPLC-MS.

<u>Test Item(s)</u>	<u>Unit</u>	MDL	<u>001</u>
Perfluorooctane Sulfonates (PFOS) and related	mg/kg	10	ND
Acid,Metal Salt and Amide			
Perfluorooctanoic Acid (PFOA)	mg/kg	10	ND

Notes :

For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004:

(1) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS equal to or below 10 mg/kg (0,001 % by weight) when it occurs in substances or in preparations.

(2) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS in semi-finished products or articles, or parts thereof, if the concentration of PFOS is lower than 0,1 % by weight calculated with reference to the mass of structurally or micro-structurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is lower than 1µg /m2 of the coated material.

Phthalate

Test Method : With reference to EN14372: 2004. Analysis was performed by GC-MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	MDL	<u>001</u>
Dibutyl Phthalate (DBP)	84-74-2	%(w/w)	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%(w/w)	0.003	ND
Bis(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%(w/w)	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0 / 68515-48-0	%(w/w)	0.010	ND



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<u>Test Item(s)</u> Di-n-octyl Phthalate (DNOP)	<u>CAS NO.</u> 117-84-0	<u>Unit</u> %(w/w)	<u>MDL</u> 0.003	<u>001</u> ND		
Diisodecyl Phthalate (DIDP)	26761-40-0 / 68515-49-1	%(w/w)	0.010	ND		
Dimethyl Phthalate (DMP)	131-11-3	%(w/w)	0.003	ND		
Diethyl Phthalate (DEP)	84-66-2	%(w/w)	0.003	ND		
Diisobutyl Phthalate (DIBP)	84-69-5	%(w/w)	0.003	ND		
Dinonyl Phthalate (DNP)	84-76-4	%(w/w)	0.003	ND		
Diisooctyl Phthalate (DIOP)	27554-26-3	%(w/w)	0.010	ND		
Dipropyl Phthalate (DPrP)	131-16-8	%(w/w)	0.003	ND		
Dicyclohexyl Phthalate (DCHP)	84-61-7	%(w/w)	0.003	ND		
Di-n-pentyl Phthalate (DnPP)	131-18-0	%(w/w)	0.003	ND		
Dibenzyl Phthalate (DBzP)	523-31-9	%(w/w)	0.003	ND		
Diphenyl Phthalate (DPhP)	84-62-8	%(w/w)	0.003	ND		
Di-n-hexyl Phthalate (DnHP)	84-75-3	%(w/w)	0.003	ND		

Notes :

(1) DBP,BBP,DEHP Reference information: Entry 51 of Regulation (EC) No 552/2009 amending Annex



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XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC): i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles.

ii) Toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.

(2) DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC). i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children. ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.

Please refer to Regulation (EC) No 552/2009 to get more detail information

(3) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC:

Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.



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RoHS Testing Flow Chart

- 1) Name of the person who made testing: Bruce Xiao / Sunny Hu
- 2) Name of the person in charge of testing: Bella Wang / Cutey Yu
- 3) These samples were dissolved totally by pre -conditioning method according to below flow chart
- (Cr6+ and PBBs/PBDEs test method excluded).





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Phthalates Testing Flow Chart

1) Name of the person who made testing: Sunny Hu

2) Name of the person in charge of testing: Cutey Yu





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HBCDD Testing Flow Chart

1) Name of the person who made testing: Sunny Hu

2) Name of the person in charge of testing: Cutey Yu





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Halogen Testing Flow Chart

1) Name of the person who made testing: Hanming Xiao

2) Name of the person in charge of testing: Bella Wang





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PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Zhihong Wang

2) Name of the person in charge of testing: Cutey Yu





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