

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

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

SGS Job No.	: GZ13317332EC
SGS Internal Reference No.	: 2.1
Tested sample information	: KB-1150
Client Reference Information	: KB-150(DM/DMB), KB-150(TNI-TBI), KB-150(double color)
Date of Sample Received	: AUG 19, 2011
Testing Period	: AUG 19, 2011 TO AUG 24, 2011
Test Requested	: Selected test (s) as requested by client.
Test Method	: Please refer to next page(s).

: Please refer to next page(s).

Signed for and on behalf of SGS-CSTC Ltd.

Hison

Test Result(s)

Alison Zhang Approved Signatory

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Test Results: Description for specimen 1 : Brown sheet w/ green printing

Elementary Analysis

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Cadmium (Cd)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2
Lead (Pb)	mg/kg	IEC 62321: 2008, ICP-OES	8	2
Mercury (Hg)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by	mg/kg	IEC 62321: 2008, UV-Vis	N.D.	2
alkaline extraction				

Note:

1. mg/kg = ppm2. N.D. = Not Detected (< MDL) 3. MDL = Method Detection Limit

Flame Retardants

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Sum of PBBs	mg/kg	-	N.D.	-
Monobromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5 5
Pentabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	
Hexabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5 5
Heptabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Sum of PBDEs	mg/kg	-	N.D.	-
Monobromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5
Decabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5

Note:

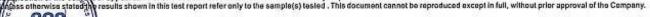
1. mg/kg = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

4. "-" = Not regulated

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Phthalate(s)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Dimethyl Phthalate (DMP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Diethyl Phthalate (DEP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Dibutyl Phthalate (DBP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Benzylbutyl Phthalate (BBP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Di-(2-ethylhexyl) Phthalate (DEHP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Diisononyl Phthalate (DINP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.01
Di-n-octyl Phthalate (DNOP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Diisodecyl Phthalate (DIDP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.01
Diiso butyl Phthalate (DIBP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Dinonyl Phthalate (DNP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Diisooctyl Phthalate (DIOP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.01
Dipropyl Phthalate (DPrP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Dicyclohexyl Phthalate (DCHP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Dipentyl Phthalate (DPP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Dibenzyl Phthalate (DBzP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Diphenyl Phthalate (DPhP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003
Di-n-hexyl Phthalate (DnHP)	%(w/w)	EN14372: 2004, GC-MS	N.D.	0.003

Note :

1. mg/kg = ppm, 0.1% = 1000ppm

2. N.D. = Not detected (< MDL)

3. MDL= Method Detection Limit

For reference:

Entry 51/52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC):

For DBP, BBP, DEHP

(1)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.

(2) 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.

For DINP, DNOP, DIDP

(1) 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.

(2) 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.

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Test Report

No.: GZ1108109314/CHEM

Date: AUG 26, 2011

PAHs (Polynuclear Aromatic Hydrocarbons)

Test Item(s) Naphthalene (NAP) Acenaphthylene (ANY) Acenaphthene (ANA) Fluorene (FLU) Phenanthrene (PHE) Anthracene (ANT) Fluoranthene (FLT) Pyrene (PYR) Benzo(a)anthracene (BaA) Chrysene (CHR) Benzo(b)fluoranthene (BbF) Benzo(k)fluoranthene (BkF) Benzo(a)pyrene (BaP)	Unit mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	Test Method ZEK 01.2-08, GC-MS ZEK 01.2-08, GC-MS	Results N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D	MDL 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2 0.2
	00	,		•
Dibenzo(a,h)anthracene (DBA) Benzo(g,h,i)perylene (BPE) Sum of 16 PAHs acc. US EPA	mg/kg mg/kg mg/kg	ZEK 01.2-08, GC-MS ZEK 01.2-08, GC-MS	N.D. N.D. N.D. N.D.	0.2 0.2 -
	5 5			

Note:

1. mg/kg = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

ZEK 01.2-08 : Restraining maximum values for products

Parameter	Category 1	Category 2	Category 3
	toys with normal skin contact for children aged < 36	included in Category 1, with predictable contact with the skin longer than 30 s. (long-	with predictable skin contact
Benzo[a]pyrene (mg/kg)	<mdl (<0.2)***<="" td=""><td>1</td><td>20</td></mdl>	1	20
Sum of 16 PAH (US EPA) (mg/kg)**	<mdl (<0.2)***<="" td=""><td>10</td><td>200</td></mdl>	10	200

Remark:

**= Only PAH substances >0.2 mg/kg are taken into account while calculating the sum of PAHs

*** = In case that the maximum values exceed the limits of category 1, but are within the limits of category 2, one may confirm the suitability of the tested material which indented to be put in the mouth by additional specific migration tests of PAH components based on DIN EN 1186ff and §64 LFGB 80.30-1. The conclusion of the migration test results must be made based on food law criteria.

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PFOA & PFOS (Perfluorooctanoic acid & Perfluorooctane sulfonates)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Perfluorooctanoic acid (PFOA) Perfluorooctane sulfonates (PFOS)	mg/kg	EPA 3550C: 2007, LC-MS	N.D.	10
PFOS – Acid PFOS – Metal Salt PFOS – Amide	mg/kg	EPA 3550C: 2007, LC-MS	N.D.	10

Note:

1. mg/kg = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

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 $1\mu g/m^2$ of the coated material.

Halogen

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Fluorine (F)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Chlorine (Cl)	mg/kg	BS EN 14582:2007, IC	112	50
Bromine (Br)	mg/kg	BS EN 14582:2007, IC	N.D.	50
lodine (I)	mg/kg	BS EN 14582:2007, IC	N.D.	50

Note:

1. mg/kg = ppm

2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

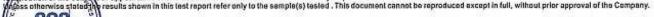
HBCDD(Hexabromocyclododecane)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Hexabromocyclododecane (HBCDD)	mg/kg	EPA 3550C: 2007, GC-MS	N.D.	10
Note:				

1. mg/kg = ppm2. N.D. = Not Detected (< MDL)

3. MDL = Method Detection Limit

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Date: AUG 26, 2011

Organotin

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
DibutyItin (DBT)	mg/kg	ISO 17353:2004, GC-MS	N.D.	0.02
Tributyltin (TBT)	mg/kg	ISO 17353:2004, GC-MS	N.D.	0.02
Triphenyltin (TPhT)	mg/kg	ISO 17353:2004, GC-MS	N.D.	0.02
Dioctyltin (DOT)	mg/kg	ISO 17353:2004, GC-MS	N.D.	0.02

Note:

1. mg/kg = ppm

- 2. N.D. = Not Detected (< MDL)
- 3. MDL = Method Detection Limit

Benzotriazole

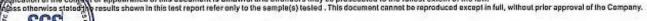
Test Item(s)	Unit	Test Method (Reference)	Result	MDL
UV-320: 2-(3,5-di-tert-butyl-2- hydroxyphenyl)-2H-benzotriazole	mg/kg	EPA 3550C:2007, GC-MS	N.D.	5
UV-350: 2-(2-hydroxy-3-sec-butyl-5-tert- butylphenyl) benzotriazole	mg/kg	EPA 3550C:2007, GC-MS	N.D.	5
UV-328: 2-(2'-hydroxy-3',5'-di-tert- amylhenyl) benzotriazole	mg/kg	EPA 3550C:2007, GC-MS	N.D.	5
UV-327: 2-(3',5'-Di-tert-butyl-2'-hydroxy- phenyl)-5-chlorobenzotriazole	mg/kg	EPA 3550C:2007, GC-MS	N.D.	5
Note: 1. mg/kg = ppm 2. N.D. = Not Detected (< MDL) 3. MDL = Method Detection Limit				

Formaldehyde

Test Item(s) Free & Hydrolyzed Formaldehyde Content	Unit mg/kg	Test Method (Reference) ISO 14184-1:2011, UV-Vis	Result N.D.	MDL 20
Note: 1. mg/kg = ppm 2. N.D. = Not Detected (< MDL)				

3. MDL = Method Detection Limit

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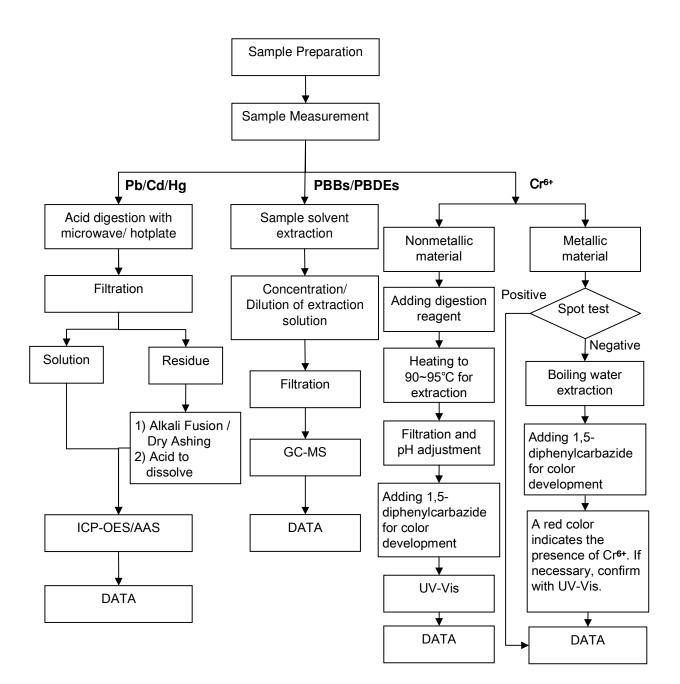


ATTACHMENTS

RoHS Testing Flow Chart

1) Name of the person who made testing: Bella Wang / Cutey Yu / Ross Zhan

2) Name of the person in charge of testing: Adams Yu / Ryan Yang



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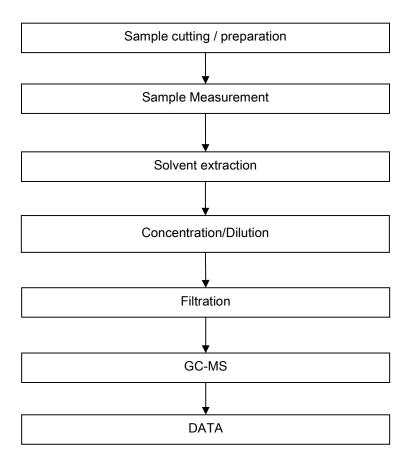


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Phthalates Testing Flow Chart

1) Name of the person who made testing: Tina Zhao

2) Name of the person in charge of testing: Ryan Yang



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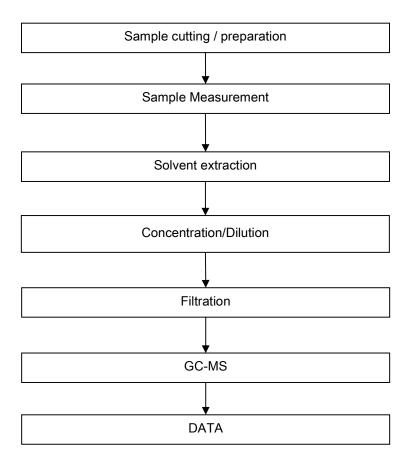


ATTACHMENTS

PAHs Testing Flow Chart

1) Name of the person who made testing: Cutey Yu

2) Name of the person in charge of testing: Ryan Yang



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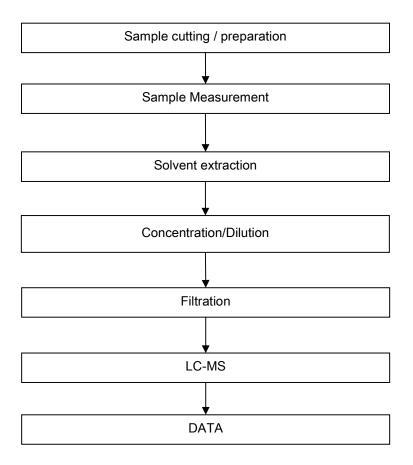


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PFOA / PFOS Testing Flow Chart

1) Name of the person who made testing: Cindy Huang

2) Name of the person in charge of testing: Ryan Yang



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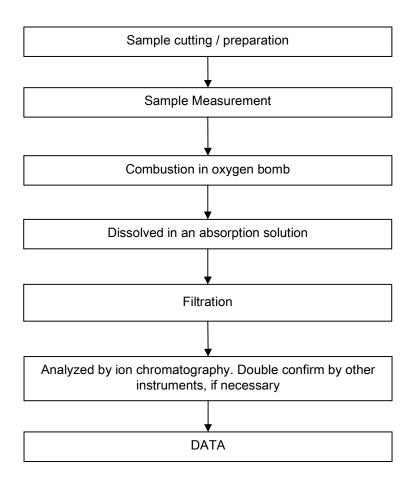


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Halogen Testing Flow Chart

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

2) Name of the person in charge of testing: Michelle Song



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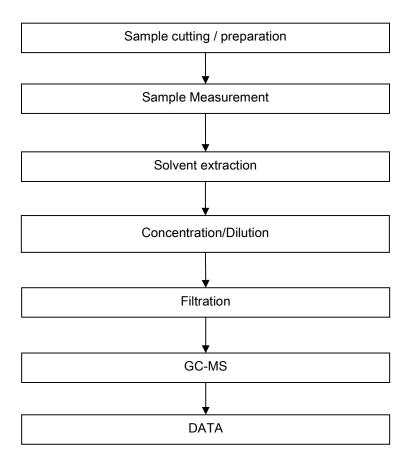


ATTACHMENTS

HBCDD Testing Flow Chart

1) Name of the person who made testing: Cutey Yu

2) Name of the person in charge of testing: Ryan Yang

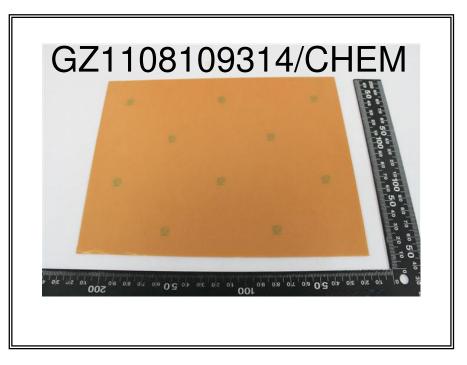


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