

Test Report

No. SHAMPLP1827570601

Date: 17 Dec 2018

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Cardel Ltd

5 The Marquis Centre, Royston Road, Baldock, SG7 6XL, England

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

SGS Job No. : SHIN1812086896PC - SH
 Product Specification : Hot Melt Adhesive Tape
 Manufacturer : Cardel Ltd
 Date of Sample Received : 11 Dec 2018
 Testing Period : 11 Dec 2018 - 17 Dec 2018
 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).

Result Summary :

Test Requested	Conclusion
RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU	See Results
Halogen	See Results
US California Proposition 65- Lead content	PASS
US California Proposition 65- Phthalate	PASS

Signed for and on behalf of
 SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Serena Wang
 Approved Signatory



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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA18-275706.001	Black solid film

Remarks :

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

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+AMD1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND
Sum of PBBs	1000	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	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
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



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Test Item(s)	Limit	Unit	MDL	001
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Di-butyl Phthalate (DBP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

Notes :

- (1)The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863. IEC 62321 series is equivalent to EN 62321 series
http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25
- (2)On 4 June 2015, Commission Directive (EU) 2015/863 was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the Rohs Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product.
- (3)The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.
- (4)The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.
- (5)The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

Halogen

Test Method : With reference to EN 14582: 2016 , analysis was performed by IC.

Test Item(s)	Unit	MDL	001
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND

US California Proposition 65- Lead content



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Test Method : With reference to CPSC Test Method: CPSC-CH-E1002-08.3. Analysis was performed by AAS.

Test Item(s)	Limit	Unit	MDL	001
Lead (Pb)	100	mg/kg	20	ND
Conclusion				PASS

Notes :

- (1) The limit is referenced to the requirement stated in County of Alameda Superior Court, RG 10-530436 and 10-530300.
- (2) The reference limit applied in testing is based on particular prop 65 settlements that are most similar to the tested product in the opinion of the lab. The testing in this report does not reflect a user's actual exposure to the tested chemical.
A manufacturer or retailer that is not named in the referenced settlement is not bound by that settlement, and may choose to comply with Proposition 65 by clearly informing the consumer of potential exposure.

US California Proposition 65- Phthalate

Test Method : With reference to CPSC-CH-C1001-09.4(2018), analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Limit	Unit	MDL	001
Dibutyl Phthalate (DBP)	84-74-2	600	mg/kg	50	ND
Benzylbutyl Phthalate (BBP)	85-68-7	600	mg/kg	50	ND
Di(2-ethylhexyl)phthalate/Bis(2-ethylhexyl) phthalate (DEHP)	117-81-7	600	mg/kg	50	ND
Diisononyl Phthalate (DINP)	28553-12-0 /68515-48-0	1000	mg/kg	50	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 /68515-49-1	600	mg/kg	50	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	600	mg/kg	50	ND
Conclusion				PASS	

Notes :

- (1) The limit is referenced to the requirement as stated in Marin County Superior Court, CIV-10-00641, County of Santa Clara Superior Court, 114CV267501 and CPSIA&16 CFR 1307.
- (2) The reference limit applied in testing is based on particular California Proposition 65 settlements that are most similar to the tested product in the opinion of the lab. The testing in this report does not reflect a user's actual exposure to the tested chemical.
A manufacturer or retailer that is not named in the referenced settlement is not bound by that settlement, and may choose to comply with California Proposition 65 by clearly informing the consumer of potential exposure.
- (3) By the request of client, only the selected phthalates of the court case were analysed.



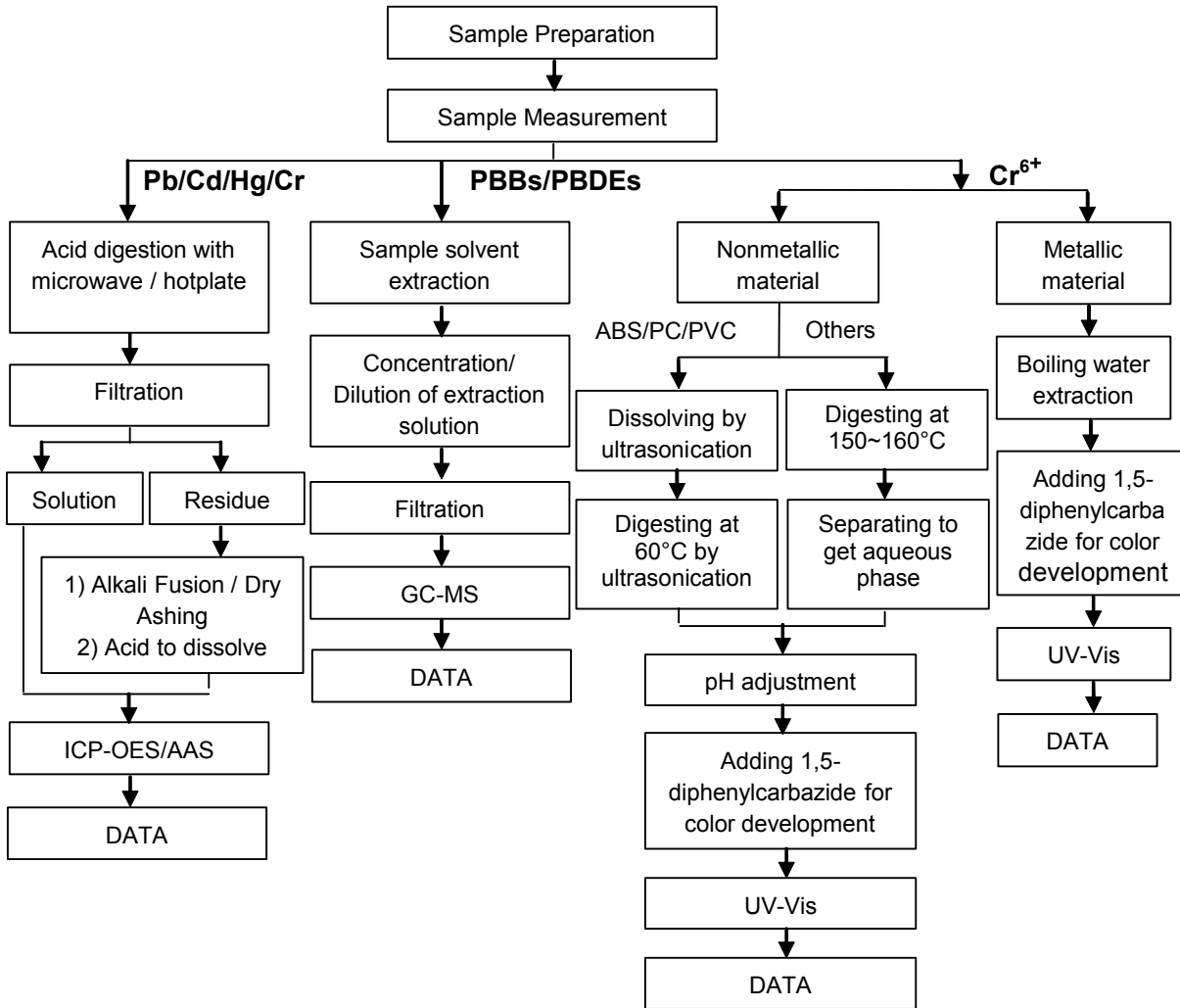
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Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)

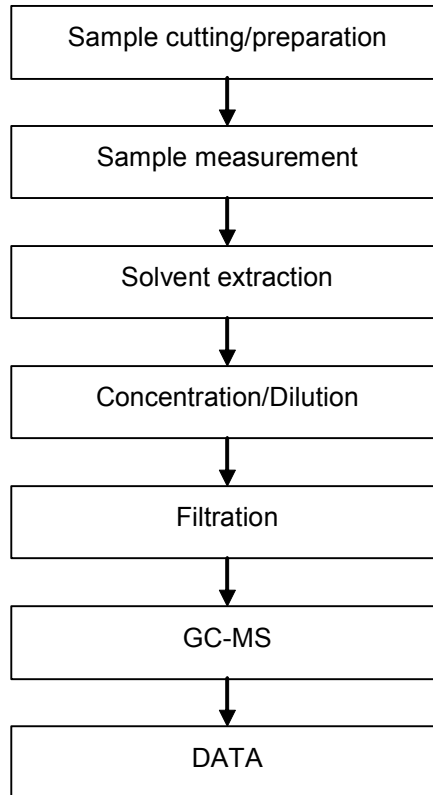


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Phthalates Testing Flow Chart

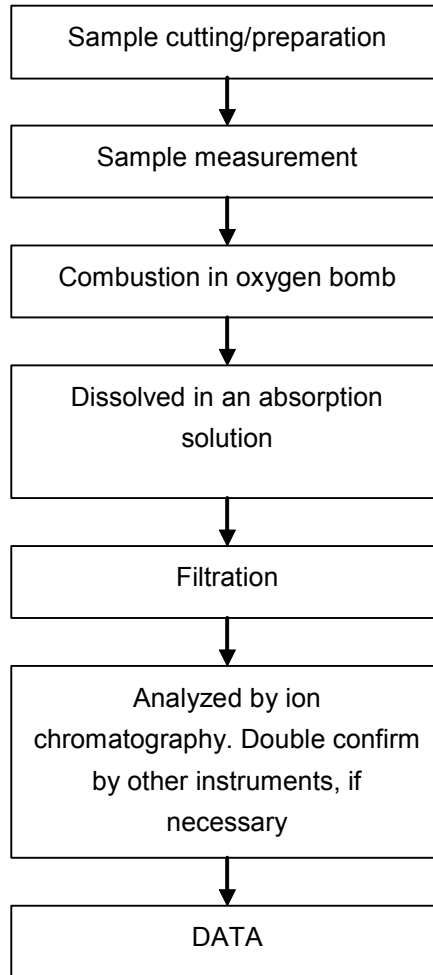


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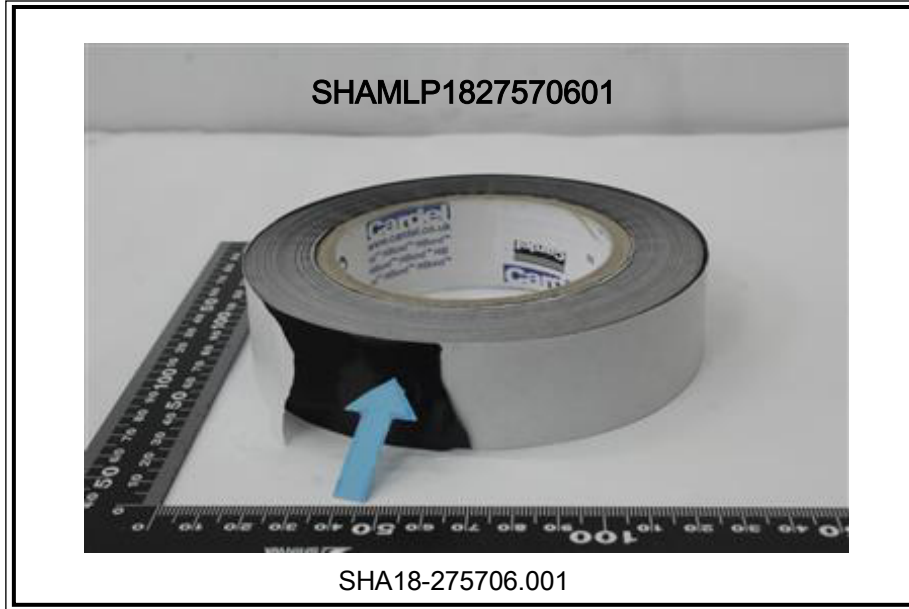
Halogen Testing (oxygen bomb) Flow Chart



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