TEST REPORT

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Test Report No. : 6147081.50QS
Project no. : 6147081

Client	:	Hangzhou Tianye Packaging Technology Co., Ltd 2-509, Eastern Science and Innovation Park, No.26 Wuzhou Road, Donghu Street, Linping District, Hangzhou City 311100, Zhejiang Province, China
Date sample received	:	2022.11.30
Product	:	Plastic tube
Product description	:	Please refer to next page(s).
Test Requested	:	EU 10/2011 and its amendments
Test Method	:	Please refer to next page(s).
Result	:	Please refer to next page(s).
Conclusion	:	/
Testing Period	:	2022.11.30—2022.12.19

Signed for and on behalf of
DEKRA Testing and Certification (Shanghai) Ltd

Wu Jialei（吴嘉雷）
Project Manager

Wu Xiang（吴翔）
Test Engineer

TEST RESULTS

1: Sensory test

Test Method: Sensory test with reference to DIN 10955: 2004.

Test procedure:

1. Wash the sample with distilled water and dry it at room temperature;
2. Total immersion the appliance with the food simulant (drinking water) and keep it at room temperature for 10days;
3. Cool to room temperature;
4. Degust the taste and evaluate;
5. Test the Blank as the steps 1~4.

TEST ITEM	Maximum Permissible Limit	TEST RESULT 001
Sensorial examination odour (Point scale)	2.5	0
Sensorial examination taste (Point scale)	2.5	0.5
Comment:		**PASS**

Scale evaluation:

0: No perceptible odour and taste
1: Odour and taste just perceptible (still difficult to define)
2: Moderate odour and taste
3: Moderately strong odour and taste
4: Strong odour and taste

2: Overall migration

Test Method: With reference to EN 1186 Part 3, Part 9:2002, overall migration by aqueous food simulants.

Test Condition: 40℃, 10days

TEST ITEM	UNIT	MDL	LIMIT	Test Result 001
20% ethanol	mg/dm²	3	10	< 3
Comment:				**PASS**

1) MDL = Method Detection Limit.

3: Specific migration of heavy metals

Test Method: With reference to EN13130-1:2004, analysis was performed by ICP-OES.
Test condition: 3% acetic acid, 60℃, 10days

TEST ITEM	UNIT	MDL	LIMIT	Test Result 001
Aluminium (Al)	mg/kg	0.5	1	N.D.
Antimony (Sb)	mg/kg	0.01	0.04	N.D.
Arsenic (As)	mg/kg	0.01	N.D.	N.D.
Barium (Ba)	mg/kg	0.1	1	N.D.
Cadmium (Cd)	mg/kg	0.002	N.D.	N.D.
Chromium (Cr)	mg/kg	0.01	N.D.	N.D.
Cobalt (Co)	mg/kg	0.03	0.05	N.D.
Copper (Cu)	mg/kg	0.5	5	N.D.
Europium (Eu)	mg/kg	0.01	0.05	N.D.
Gadolinium (Gd)	mg/kg	0.01	0.05	N.D.
Iron (Fe)	mg/kg	5	48	N.D.
Lanthanum (La)	mg/kg	0.01	0.05	N.D.
Lead (Pb)	mg/kg	0.01	N.D.	N.D.
Lithium (Li)	mg/kg	0.01	0.6	N.D.
Manganese (Mn)	mg/kg	0.1	0.6	N.D.
Mercury (Hg)	mg/kg	0.01	N.D.	N.D.

Nickel (Ni)	mg/kg	0.01	0.02	N.D.
Terbium (Tb)	mg/kg	0.01	0.05	N.D.
Zinc (Zn)	mg/kg	1	5	N.D.
Wolfram (W)	mg/kg	0.01	0.05	N.D.
Comment:				**PASS**

1) MDL = Method Detection Limit.

2) N.D. = Not detected, less than MDL.

4: Specific migration of primary aromatic amine

Test Method: Sample preparation with reference to EN 13130-1: 2004 with selection of simulant and condition, followed by analysis by LC/MS/MS & UV.

Test Condition: 3% acetic acid, 60℃, 10days

TEST ITEM	UNIT	Maximum Permissible Limit	Test Result 001
4-aminobiphenyl	mg/kg	0.002	<0.002
benzidine	mg/kg	0.002	<0.002
4-chloro-o-toluidine	mg/kg	0.002	<0.002
2-naphthylamine	mg/kg	0.002	<0.002
o-aminoazotoluene	mg/kg	0.002	<0.002
5-nitro-o-toluidine	mg/kg	0.002	<0.002
4-chloroaniline	mg/kg	0.002	<0.002
4-methoxy-m-phenylenediamine	mg/kg	0.002	<0.002
4,4'-methylenedianiline	mg/kg	0.002	<0.002
3,3'-dichlorobenzidine	mg/kg	0.002	<0.002
3,3'-dimethoxybenzidine	mg/kg	0.002	<0.002
3,3'-dimethylbenzidine	mg/kg	0.002	<0.002
4,4'-methylenedi-o-toluidine	mg/kg	0.002	<0.002
6-methoxy-m-toluidine	mg/kg	0.002	<0.002
4,4'-methylene-bis-(2-chloro-aniline)	mg/kg	0.002	<0.002
4,4'-oxydianiline	mg/kg	0.002	<0.002
4,4'-thiodianiline	mg/kg	0.002	<0.002
o-toluidine	mg/kg	0.002	<0.002
4-methyl-m-phenylenediamine	mg/kg	0.002	<0.002
2,4,5-trimethylaniline	mg/kg	0.002	<0.002
o-anisidine	mg/kg	0.002	<0.002
4-amino azobenzene	mg/kg	0.002	<0.002
1,3-phenylenediamine	mg/kg	0.002	<0.002
Other Primary Aromatic Amine	mg/kg	Sum≤0.01	<0.01
Comment:			**PASS**

5: Specific migration of bisphenol A

Test Method: With reference to EN 13130-1:2004, analysis was performed by HPLC.

Test Condition: 3% acetic acid, 60℃, 10days

TEST ITEM	UNIT	MDL	LIMIT	Test Result 001
migration of BPA	mg/kg	0.05	0.05	N.D.
Comment:				**PASS**

1) MDL = Method Detection Limit.

2) N.D. = Not detected, less than MDL.

6: Specific migration of melamine

Test Method: With reference to EN13130-1:2004, analysis was performed by HPLC-FLD.

Test Condition: 3% acetic acid, 60℃, 10days

TEST ITEM	UNIT	MDL	LIMIT	Test Result 001
migration of Melamine	mg/kg	2	2.5	N.D.
Comment:				**PASS**

1) MDL = Method Detection Limit.

2) N.D. = Not detected, less than MDL.

7: Specific migration of Extractable formaldehyde

Test Method: With reference to EN 13130-1:2004, followed by analysis by UV-vis.

Test condition: 3%acetic acid, 60℃, 10days

TEST ITEM	UNIT	MDL	LIMIT	Test Result 001
migration of Formaldehyde	mg/kg	3	15	N.D.
Comment:				**PASS**

1) MDL = Method Detection Limit.

2) N.D. = Not detected, less than MDL.

8: Specific migration of BADGE,BFDGE&NOGE

Test Method: Bisphenol-A Diglycidyl Ether (BADGE) and some of its derivatives:
Refer to EN 15136:2006.
Bisphenol-F Diglycidyl Ether (BFDGE): Refer to EN 15137:2006.
Novolac Glycidyl Ethers (NOGE): Refer to EN 15137:2006.
Test Condition: 3% acetic acid, 60℃, 10days

Test Item	CAS No.	Unit	Detection limit	Limit	TEST RESULT 001☆
BADGE and some of its derivatives	---	mg/6 dm^2	0.06	(^)	N.D.
BFDGE	039817-09-9	mg/6 dm^2	0.06	N.D.	N.D.
NOGE	---	mg/6 dm^2	0.06	N.D.	N.D.

1) mg/6 dm^2 = milligram per 6 square decimetre
2) N.D. = Not detected
3) "---" = Not Regulated.
4) (^) According to Commission Regulation (EC) No 1895/2005,the permissible limit of BADGE is as follow:

Parameter	CAS No.	Limit According to Directive 1895/2005/EC
(a) BADGE	001675-54-3	Sum:9 mg/6 dm^2
(b) BADGE.H_2O	076002-91-0	
(c) BADGE.$2H_2O$	005581-32-8	
(a) BADGE.HCl	013836-48-1	Sum:1 mg/6 dm^2
(b) BADGE.2HCl	004809-35-2	
(c) BADGE.H_2O.HCl	227947-06-0	

5) ☆ The test was carried out in lab accredited by DEKRA.

Test item	Description	
001	white plastic tube	

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