

TEST REPORT

APPLICANT : Xindao B.V.
ADDRESS : P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands
SAMPLE DESCRIPTION : Highland mug
ITEM NO. : P432.51
COUNTRY OF ORIGIN : China
COUNTRY OF DESTINATION : Europe
SAMPLE RECEIVED DATE : 10-Oct-2016
TURN AROUND TIME : 10-Oct-2016 to 01-Nov-2016

The following test item(s) was/were performed on selected sample(s) and/or component(s) appointed by applicant.

TEST REQUESTED	RESULT
Total Lead Content	Pass
Polycyclic Aromatic Hydrocarbons (PAHs) REACH Annex XVII, Entry 50	Pass
Polycyclic Aromatic Hydrocarbons (PAHs) German GS Specification document: AfPS GS 2014:01 PAK (PAK=PAHs)	See Test Result
Bisphenol A (BPA) Content	Pass
Overall Migration for Plastic	Pass
Specific Migration of Heavy Metal	Pass
Overall Migration for Silicone	Pass
Specific Release of Heavy Metals	Pass

Eurofins (Shanghai) contact information

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***** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) *****

Signed for and on behalf of
Eurofins Product Testing Service (Shanghai) Co., Ltd



Terric Ji
Lab Manager

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SAMPLE PHOTO**EFSH16100273-CG-01**

TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Related Sample(s)
1	Black PP cover	A, B, C
2	White soft silicone gasket	A, B, C
3	Black soft PP handle	A, B, C
4	Black hard PP handle	A, B, C
5	Black foam pad with sticky (base)	A, B, C
6	Black PP (outside of the cup)	A
7	Red PP (outside of the cup)	B
8	Blue PP (outside of the cup)	C
9	Silvery metal mug (double wall stain steel)	A, B, C

TO BE CONTINUED

TEST RESULT

Total Lead Content

Test Request: Total lead content as specified in entry 63 of annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Regulation (EU) No 2015/628.

Test Method: EPA 3050B:1996, EPA 3051A:2007, EPA 3052:1996
Acid digestion method was used and total lead content was determined by ICP-OES.

Tested Item(s)	Unit	Limit	MDL	Result		
				3+4	5	6+7+8
Total Lead	%	0.05	0.001	ND	ND	ND

Remark:

MDL = method detection limit

ND = Not detected, less than MDL

As per client's request, only the appointed materials have been tested.

According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Request: Polycyclic Aromatic Hydrocarbons (PAHs) content as specified in Regulation (EU) 2015/326 amending entry 50 of Annex XVII of REACH Regulation (EC) No 1907/2006.

Test Method: Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to AfPS GS 2014:01 PAK (PAK=PAHs) requirement

Tested Item(s)	CAS No.	Unit	Limit	MDL	Result
					1+2+3
For rubber or plastic will direct contact with skin and mouth.					
Benzo(a)anthracene	56-55-3	mg/kg	1	0.2	ND
Chrysene	218-01-9	mg/kg	1	0.2	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	1	0.2	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	1	0.2	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	1	0.2	ND
Benzo(a)pyrene	50-32-8	mg/kg	1	0.2	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1	0.2	ND
Benzo(e)pyrene	192-97-2	mg/kg	1	0.2	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

As per client's request, only the appointed materials have been tested.

According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

TO BE CONTINUED

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Request: 18 Polycyclic Aromatic Hydrocarbons in polymers (PAHs) according to German GS Specification document: AfPS GS 2014:01 PAK (PAK=PAHs)

Test Method: Solvent extraction and quantification by gas chromatography-mass selective detection (GC-MS) with respect to AfPS GS 2014:01 PAK (PAK=PAHs) requirement

Requirement: AfPS GS 2014:01 PAK (PAK=PAHs) requirement: Limits for PAHs in Toys under Directive 2009/48/EC and Other products under ProdSG, see table 1 on next page(s):

Parameter	CAS No.	Unit	Result
			1+2+3
Benzo(a)pyrene	50-32-8	mg/kg	ND
Benzo(e)pyrene	192-97-2	mg/kg	ND
Benzo(a)anthracene	56-55-3	mg/kg	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	ND
Chrysene	218-01-9	mg/kg	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	ND
Benzo(ghi)perylene	191-24-2	mg/kg	ND
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	ND
Sum of Acenaphthene, Acenaphthylene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-	mg/kg	0.262
Naphthalene	91-20-3	mg/kg	ND
Sum 18 PAHs	-	mg/kg	0.262
Summary to above mentioned requirement:	For Category 1		Not conclusion*

Remark:

mg/kg = milligram per kilogram

ND = not detected, less than 0.2 mg/kg

* Not conclusive due to mix-tested.

As per client's request, only the appointed materials have been tested.

According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.

TO BE CONTINUED

TEST RESULT

Table 1

AfPS GS 2014:01 PAK (PAK=PAHs) requirement: Limits for PAHs in Toys under Directive 2009/48/EC and Other products under ProdSG.

Parameter	Unit	Category 1 Materials indented to be put in the mouth, or materials of toys for children with foreseeable skin contact for longer than 30 seconds (long-term skin contact)	Category 2 Materials not covered by category 1, with foreseeable skin contact for longer than 30 seconds (long-term skin contact) or short-term repetitive contact with the human skin		Category 3 Materials not covered by category 1 or 2 with foreseeable skin contact up to 30 seconds (short term skin contact)	
		-	Toys under Directive 2009/48/EC	Other products under ProdSG	Toys under Directive 2009/48/EC	Other products under ProdSG
Benzo(a)pyrene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo(e)pyrene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo(a)anthracene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo(b)fluoranthene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo(j)fluoranthene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo(k)fluoranthene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Chrysene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Dibenzo(a,h)anthracene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Benzo(ghi)perylene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Indeno(1,2,3-cd)pyrene	mg/kg	<0.2	<0.2	<0.5	<0.5	<1
Acenaphthene, Acenaphthylene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	mg/kg	<1 Sum*	<5 Sum*	<10 Sum*	<20 Sum*	<50 Sum*
Naphthalene	mg/kg	<1	<2		<10	
Sum* 18 PAHs	mg/kg	<1	<5	<10	<20	<50

* = Only those PAH components are taken into account, which have been specified in the material over the 0.2 mg/kg.

TO BE CONTINUED

TEST RESULT

Bisphenol A (BPA) Content

Test Requested : In accordance with French Law No. 2012/1442, DGCCRF information notice 2004/64 and (EC) No 1935/2004 on materials in contact with foodstuffs.

Test Method : Extraction with organic solvent, analysis by GC-MS and LC-MS

Test item(s)	Limit	Unit	MDL	Result
				1
Bisphenol A (BPA) content	0.1	mg/kg	0.1	ND

Remark:

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

As per client's request, only the appointed materials have been tested.

Overall Migration

Test Requested : To determine the Overall Migration for compliance with Commission Regulation (EU) No 10/2011 and its amendments relating to plastic materials and articles intended to come into contact with foodstuffs.

Test Method : By reference to EU 10/2011 for selection of test condition;
With reference to EN1186-1:2002 for selection of test methods;
or EN1186-3:2002 aqueous food simulants by total immersion method;
or EN1186-9:2002 aqueous food simulants by article filling method;
or EN1186-2:2002 olive oil by total immersion method;
or EN1186-8:2002 olive oil by article filling method;
or EN 1186-14:2002 substitute test

Simulant used	Time	Temperature	Max. Permissible Limit (mg/dm ²)	Result (mg/dm ²)
				1
3% Acetic Acid (W/V) Aqueous Solution	4hrs	100°C	10	4.6
50% Ethanol (V/V) Aqueous Solution	4hrs	100°C	10	4.8

Note:

- (1) mg/dm² = milligram per square decimeter
- (2) Analytical tolerance of aqueous simulants is 1 mg/dm²
- (3) Analytical tolerance of fatty food simulants is 3 mg/dm²
- (4) Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Migration of Heavy Metal

Test Requested : To determine the Specific Migration of Heavy Metal for compliance with Commission Regulation (EU) No 10/2011 and its amendment Regulation (EU) 2016/1416 on plastic materials and articles intended to come into contact with food.

Test Method : With reference to Regulation (EU) 10/2011 and its amendment Regulation (EU) 2016/1416 for selection of test condition and EN 13130-1:2004 for test preparation method; analysis was performed by ICP-OES.

Simulant Used: 3% Acetic Acid (W/V) Aqueous Solution
Test Condition: 100°C 24hours

Test Item(s)	Max. Permissible limit	Unit	MDL	Test Result
				1
Aluminium	1	mg/kg	0.1	ND
Barium	1	mg/kg	0.25	ND
Cobalt	0.05	mg/kg	0.05	ND
Copper	5	mg/kg	0.25	ND
Iron	48	mg/kg	0.25	ND
Lithium	0.6	mg/kg	0.5	ND
Manganese	0.6	mg/kg	0.05	ND
Zinc	5	mg/kg	0.5	ND

Note:

- (1) mg/kg = milligram per kilogram
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected(<MDL)
- (4) Test condition & simulant were specified by client.

Overall Migration

Test Requested : In accordance with Council of Europe Resolution AP (2004) 5.

Test Method : With reference to EN 1186-1:2002 for selection of conditions and test methods;
or EN 1186-3:2002 aqueous food simulants by total immersion method;
or EN 1186-9:2002 aqueous food simulants by article filling method;
or EN 1186-2:2002 olive oil by total immersion method;
or EN 1186-8:2002 olive oil by article filling method;
or EN 1186-14:2002 substitute test.

Simulant used	Time	Temperature	Max. Permissible Limit (mg/dm ²)	Result (mg/dm ²)
				2
3% Acetic Acid (W/V) Aqueous Solution	4hrs	100°C	10	<3.0
50% Ethanol (V/V) Aqueous Solution	4hrs	100°C	10	<3.0

Note:

- (1) mg/dm² = milligram per square decimeter
- (2) Analytical tolerance of aqueous simulants is 1 mg/dm²
- (3) Analytical tolerance of fatty food simulants is 3 mg/dm²
- (4) Test condition & simulant were specified by client.

TO BE CONTINUED

TEST RESULT

Specific Release of Heavy Metals

Test Requested : In accordance with CM/Res (2013)9 on metals and alloys used in food contact materials and articles.

Test Method : Samples were prepared at specific condition, analysed by using ICP-OES/ICP-MS.

Simulant Used: 0.5% citric acid

Test Condition: 100°C 24hours

Test Item(s)	Unit	MDL	Result			
			9			
			1 st + 2 nd Migration		3 rd Migration	
			Result	7xSRL ^{*2}	Result	SRL ^{*1}
Aluminum (Al)	mg/kg	0.5	0.6	35	ND	5
Antimony (Sb)	mg/kg	0.01	ND	0.28	ND	0.04
Chromium (Cr)	mg/kg	0.05	0.10	1.75	ND	0.25
Cobalt (Co)	mg/kg	0.005	ND	0.14	ND	0.02
Copper (Cu)	mg/kg	0.5	ND	28	ND	4
Iron (Fe)	mg/kg	5	ND	280	ND	40
Manganese (Mn)	mg/kg	0.2	ND	12.6	ND	1.8
Molybdenum (Mo)	mg/kg	0.01	ND	0.84	ND	0.12
Nickel (Ni)	mg/kg	0.01	ND	0.98	ND	0.14
Silver (Ag)	mg/kg	0.01	ND	0.56	ND	0.08
Tin ^{*3} (Sn)	mg/kg	5	ND	700	ND	100
Vanadium (V)	mg/kg	0.001	ND	0.07	ND	0.01
Zinc (Zn)	mg/kg	0.5	ND	35	ND	5
Arsenic (As)	mg/kg	0.0005	0.002	0.014	0.0005	0.002
Barium (Ba)	mg/kg	0.1	0.3	8.4	ND	1.2
Beryllium (Be)	mg/kg	0.001	ND	0.07	ND	0.01
Cadmium (Cd)	mg/kg	0.001	ND	0.035	ND	0.005
Lead (Pb)	mg/kg	0.001	0.007	0.07	0.003	0.01
Lithium (Li)	mg/kg	0.005	ND	0.336	ND	0.048
Mercury (Hg)	mg/kg	0.0005	ND	0.021	ND	0.003
Thallium (Tl)	mg/kg	0.00005	ND	0.0007	ND	0.0001

Note:

- (1) mg/kg =milligram per kilogram
- (2) MDL = method detection limit
- (3) ND = not detected (<MDL)
- (4) SRL = Specific Release Limit
- (5) *1 Compliance is established on the result from the third migration test for repeated used articles.
- (6) *2 Meantime, the sum of the results of the first and second tests should not exceed 7 times the SRL
- (7) *3 Except in field of application under Regulation (EC) No.1881/2006.(canned food container)
- (8) Test condition & simulant were specified by client.

END OF THE REPORT