

TEST REPORT

APPLICANT : Xindao B.V.
ADDRESS : P.O. Box 3082, 2280 GB, Rijswijk, The Netherlands
SAMPLE DESCRIPTION : Aluminium sport bottle 600ML
ITEM NO. : P436.56
COUNTRY OF ORIGIN : China
COUNTRY OF DESTINATION : Europe
SAMPLE RECEIVED DATE : 05-Jun-2015
FURTHER INFORMATION DATE : 25-Jun-2015
TURN AROUND TIME : 25-Jun-2015 to 07-Jul-2015

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

TEST REQUESTED	RESULT
- Overall Migration	Pass
- Specific Migration of Heavy Metal	Pass
- Bisphenol-A (BPA) Content	See Test Result
- Specific Release of Heavy Metals	Pass
- Total Cadmium Content	Pass
- PAH Limit according to German GS Specification document: AfPS GS 2014:01 PAK (PAK=PAHs)	Pass
- Regulation (EU) 2015/326 amending entry 50 of Annex XVII of REACH Regulation (EC) No 1907/2006 – PAHs Content	Pass

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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(S)**EFSH15060520-CG-01**

TO BE CONTINUED

COMPONENT LIST

Component No.	Component
1	Silvery aluminium body
2	Dark grey PP lid
3	Black AS on lid
4	Translucent PE straw
5	Transparent silicone rubber

TO BE CONTINUED

TEST RESULT

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 : With reference to EN1186-1:2002 for selection of conditions and 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 EN1186-14:2002 substitute test

Simulant Used	Test Condition	Max. Permissible Limit (mg/kg)	Test Result (mg/kg)		
			2	3	4
3% Acetic Acid (W/V) Aqueous Solution	2hours at 70°C	60	<20	<20	<20
50% Ethanol (V/V) Aqueous Solution	2hours at 70°C	60	<20	<20	<20

Note:

- (1) mg/kg = milligram per kilogram
- (2) Analytical tolerance of aqueous simulants is 6mg/kg
- (3) Analytical tolerance of fatty food simulants is 20mg/kg
- (4) Test condition & simulant were specified by client.

Overall Migration

Test Requested : In accordance with Council of Europe Resolution AP (2004) 5.
For material: Silicone rubber – Overall migration test.

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	Test Condition	Max. Permissible Limit (mg/kg)	Test Result (mg/kg)
			5
3% Acetic Acid (W/V) Aqueous Solution	2hours at 70°C	60	<20
50% Ethanol (V/V) Aqueous Solution	2hours at 70°C	60	<20

Note:

- (1) mg/kg = milligram per kilogram
- (2) Analytical tolerance of aqueous simulants is 6mg/kg
- (3) Analytical tolerance of fatty food simulants is 20mg/kg
- (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 amendments on plastic materials and articles intended to come into contact with food.

Test Method : With reference to EU 10/2011 for selection of test method; analysis was performed by ICP-OES.

Simulant used: 3% Acetic Acid (W/V) Aqueous Solution

Test condition: 70°C 2hours

Test Item(s)	Max. Permissible limit	Unit	MDL	Test Result		
				2	3	4
Barium	1	mg/kg	0.25	ND	ND	ND
Cobalt	0.05	mg/kg	0.05	ND	ND	ND
Copper	5	mg/kg	0.25	ND	ND	ND
Iron	48	mg/kg	0.25	ND	ND	ND
Lithium	0.6	mg/kg	0.5	ND	ND	ND
Manganese	0.6	mg/kg	0.05	ND	ND	ND
Zinc	25	mg/kg	0.5	ND	ND	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.

Bisphenol-A (BPA) Content

Test method : Extraction with organic solvent, analysis by GC/MS and LC/MS.

Tested Item(s)	Unit	Test Result			M.D.L.
		2	3	4	
BPA	mg/kg	ND	ND	ND	0.1

Note:

M.D.L. = method detection limit
ND = Not detected, less than M.D.L.
mg/kg = milligram per kilogram

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: 70°C 2hours

Test Item(s)	Unit	MDL	Result			
			1			
			1 st + 2 nd Migration		3 rd Migration	
			Result	7xSRL ^{*2}	Result	SRL ^{*1}
Aluminum (Al)	mg/kg	0.5	ND	35	ND	5
Antimony (Sb)	mg/kg	0.01	ND	0.28	ND	0.04
Chromium (Cr)	mg/kg	0.05	ND	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	ND	0.014	ND	0.002
Barium (Ba)	mg/kg	0.1	ND	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	ND	0.07	ND	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.

TO BE CONTINUED

TEST RESULT

Total Cadmium Content

Test method : With reference to EN 1122: 2001, Method B, analysis was performed by ICP-OES.

Limit : Commission Regulation (EU) No 835/2012 amending Annex XVII of REACH Regulation (EC) No 1907/2006-Cadmium (Cd).

Tested Item(s)	Test Result (%)			M.D.L.(%)	Limit(%)
	2	3	4		
Total Cadmium (Cd)	ND	ND	ND	0.0005	0.01

Note:

M.D.L. = method detection limit

ND = not detected, less than M.D.L.

TO BE CONTINUED

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

- Test specification : 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
			2
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	ND
Naphthalene	91-20-3	mg/kg	ND
Sum 18 PAHs	-	mg/kg	ND
Summary to above mentioned requirement:	For Category 2 (Other products under ProdSG)		Pass

Note:

mg/kg = milligram per kilogram

ND = not detected, less than 0.2 mg/kg

TO BE CONTINUED

TEST RESULT

Polycyclic Aromatic Hydrocarbons (PAHs)

- Test specification : 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	
			3	4
Benzo(a)pyrene	50-32-8	mg/kg	ND	ND
Benzo(e)pyrene	192-97-2	mg/kg	ND	ND
Benzo(a)anthracene	56-55-3	mg/kg	ND	ND
Benzo(b)fluoranthene	205-99-2	mg/kg	ND	ND
Benzo(j)fluoranthene	205-82-3	mg/kg	ND	ND
Benzo(k)fluoranthene	207-08-9	mg/kg	ND	ND
Chrysene	218-01-9	mg/kg	ND	ND
Dibenzo(a,h)anthracene	53-70-3	mg/kg	ND	ND
Benzo(ghi)perylene	191-24-2	mg/kg	ND	ND
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	ND	ND
Sum of Acenaphthene, Acenaphthylene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-	mg/kg	ND	ND
Naphthalene	91-20-3	mg/kg	ND	0.289
Sum 18 PAHs	-	mg/kg	ND	0.289
Summary to above mentioned requirement:	For Category 1		Pass	Pass

Note:

mg/kg = milligram per kilogram

ND = not detected, less than 0.2 mg/kg

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

Polycyclic Aromatic Hydrocarbons (PAHs)

Test Requested : 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 determination by Gas Chromatography Mass Spectrometry (GC-MS).

Test Item(s)	Result (mg/kg)			MDL (mg/kg)	Limit (mg/kg)
	2	3	4		
Benzo(a)anthracene	ND	ND	ND	0.2	1
Chrysene	ND	ND	ND	0.2	1
Benzo(b)fluoranthene	ND	ND	ND	0.2	1
Benzo(j)fluoranthene	ND	ND	ND		
Benzo(k)fluoranthene	ND	ND	ND	0.2	1
Benzo(a)pyrene	ND	ND	ND	0.2	1
Dibenzo(a,h)anthracene	ND	ND	ND	0.2	1
Benzo(e)pyrene	ND	ND	ND	0.2	1

Note :

mg/kg = milligram per kilogram

MDL = method detection limit

ND = not detected (<MDL)

*** END OF THE REPORT ***