

TEST REPORT

No.:ED170912002C

Date: September 18, 2017

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Applicant :

Address :

Sample Name : Leak proof bottle

Style/Item No. : P436.443

Sample Received Date : September 12, 2017

Testing Completed Date : September 18, 2017

Test Requested :

- For compliance with the Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food:
 - Overall migration
 - Specific migration of metal elements
- As requested by client, according to Appendix C to Annex II to Directive 2009/48/EC and amendment Directive 2014/81/EU, to determine the Bisphenol A (BPA) migration in the submitted sample.
- As requested by client, according to AfPS GS 2014:01 PAK, to determine the Polycyclic Aromatic Hydrocarbons (PAHs) in the submitted sample.

Test Results : Please refer to next page(s).

Executive Summary:

STANDARD	CONCLUSION
1. Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food	PASS
2. Directive 2009/48/EC and amendment Directive 2014/81/EU Annex II Appendix C – Bisphenol A migration	PASS
3. AfPS GS 2014:01 PAK - Polycyclic Aromatic Hydrocarbons (PAHs) Requirement	PASS

Signed for and on behalf of
EMTEK (Dongguan) Co., Ltd.

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Test Results:

1.1 Overall migration

Test Method: EN1186:2002

Test Items	Test condition	Result (mg/dm ²)			Maximum Permissible limit (mg/dm ²)
		1	2	4	
Maximum extractable fraction in 10% ethanol (v/v)	100°C, 2h	<1.0	<1.0	<1.0	10

 Note: mg/dm²=milligram per square decimeter < = Less than

1.2 Specific migration of metal elements

Test Method: Sample preparation in 10% ethanol at 100°C for 2h and followed by analysis was performed by Inductively Coupled Plasma - Optical Emission Spectrometry (ICP-OES).

Test Items	Result (mg/kg)			Maximum Permissible limit (mg/kg)
	1	2	4	
Barium (Ba)	<1	<1	<1	1
Cobalt (Co)	<0.01	<0.01	<0.01	0.05
Copper (Cu)	<1	<1	<1	5
Iron (Fe)	<1	<1	<1	48
Lithium (Li)	<0.1	<0.1	<0.1	0.6
Manganese (Mn)	<0.1	<0.1	<0.1	0.6
Zinc (Zn)	<1	<1	<1	25

Note: mg/kg = part per million = ppm < = Less than

2. Bisphenol A content:

Test Method: To refer to EN 71-10:2005 & EN 71-11:2005, the analysis was performed by LC - MS.

Test Item	Result (mg/kg)			Reporting Limit (mg/L)	Requirement (mg/L)
	1	2	4		
Bisphenol A (BPA)	ND	ND	ND	0.01	0.04

Note: ND = Not Detected (less than Reporting limit)

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Test Results:

3. Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method: To refer to AfPS GS 2014:01 PAK, the analysis was performed by GC / MS.

Test Item	CAS Number	Result (mg/kg)				Reporting Limit (mg/kg)
		1	2	3	4	
Benzo[a]pyrene(BaP)	50-32-8	ND	ND	ND	ND	0.2
Benzo[e]pyren(BeP)	192-97-2	ND	ND	ND	ND	0.2
Benzo[a]anthracene(BaA)	56-55-3	ND	ND	ND	ND	0.2
Benzo[b]fluoranthene(BbF)	205-99-2	ND	ND	ND	ND	0.2
Benzo[j]fluoranthene(BjF)	205-82-3	ND	ND	ND	ND	0.2
Benzo[k]fluoranthene(BkF)	207-08-9	ND	ND	ND	ND	0.2
Chrysene(CHR)	218-01-9	ND	ND	ND	ND	0.2
Dibenzo[a,h]anthracene(DBA)	53-70-3	ND	ND	ND	ND	0.2
Benzo[g,h,i]perylene(BPE)	191-24-2	ND	ND	ND	ND	0.2
Indeno[1,2,3-cd]pyrene(IPY)	193-39-5	ND	ND	ND	ND	0.2
Acenaphthylene(ANY)	208-96-8	ND	ND	ND	ND	0.2
Acenaphthene(ANA)	83-32-9	ND	ND	ND	ND	0.2
Fluorene(FLU)	86-73-7	ND	ND	ND	ND	0.2
Phenanthrene(PHE)	85-01-8	ND	ND	1.0	ND	0.2
Pyrene(PYR)	129-00-0	ND	ND	0.8	ND	0.2
Anthracene(ANT)	120-12-7	ND	ND	ND	ND	0.2
Fluoran-thene(FLT)	206-44-0	ND	ND	1.3	ND	0.2
Sum# of Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Pyrene, Anthracene, Fluoranthene	-----	ND	ND	3.1	ND	-----
Naphthalene(NAP)	91-20-3	ND	ND	ND	ND	0.2
Total of above PAHs (sum)#	-----	ND	ND	3.1	ND	-----

Note: 1. mg/kg = part per million = ppm ND = Not Detected (less than Reporting limit)

2. “#” = Only those PAH components which present in the material over the 0.2 mg/kg are taken into account while calculating the sum of PAHs
3. All the materials tested belong to category 2 by identifying.

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Appendix

Limit of PAH content according to AfPS GS 2014:01 PAK.

Parameter	Category 1 Materials intended to be put in the mouth, or materials in toys intended and with long-term skin contact (longer than 30s)	Category 2 Materials not covered by category 1, with predictable skin contact longer than 30 seconds(long-term skin contact) or repeated short-term skin contact*		Category 3 Materials not fall in category 1 or 2 with predictable skin contact up to 30s(short-term skin contact)	
		Toys by Directive 2009/48/EC	Other products by ProdSG	Toys by Directive 2009/48/EC	Other products by ProdSG
Benzo[a]pyrene (mg/kg)	< 0.2	< 0.2	< 0.5	< 0.5	< 1
Benzo[e]pyren (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[g,h,i]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
Acenaphthylene, Acenaphthene, 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

Remark: * Phrase "short-term repeated skin contact" from REACH Annex XVII No. 50 supplement (REGULATION (EU) No.1272 / 2013)

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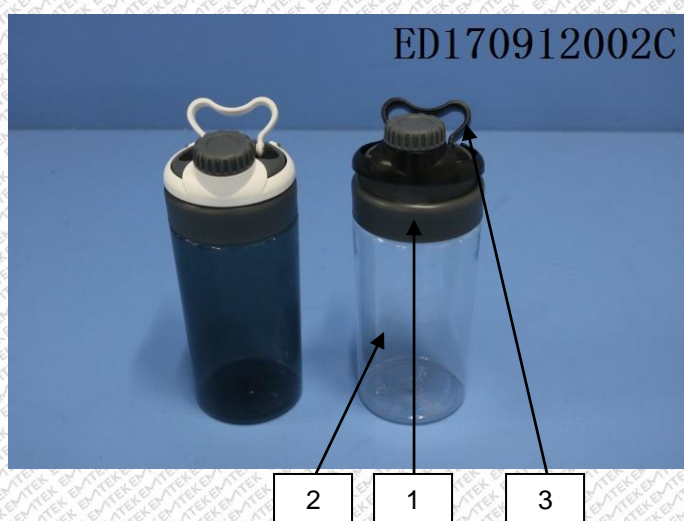
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Tested Materials:

No.	Description
1	Grey hard plastic (lid)
2	Transparent hard plastic (bottle)
3	Black hard plastic (lid / handle)
4	Translucent soft plastic (gasket)

Photo Appendix



* * * * * The End * * * * *

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