

# TEST REPORT

**APPLICANT** : Xindao B.V.

**ADDRESS** : P.O.Box 3082,2280 GB,Rijswijk,The Netherlands

**SAMPLE DESCRIPTION** : Easy lock vacuum mug

**ITEM NO.** : P432.65

**SAMPLE RECEIVED DATE** : 25-Jan-2022

**TURN AROUND TIME** : 25-Jan-2022 to 07-Feb-2022

The following test item(s) was/were performed on submitted sample(s) and/or component(s) confirmed by applicant

TEST REQUESTED	RESULT
Overall Migration	Pass
Specific Migration of Heavy Metal	Pass
Specific Migration of Primary Aromatic Amine	Pass
Volatile Organic Matter (VOM)	Pass
Peroxide Value	Pass
Sensorial Examination Odour and Taste Test	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) \*\*\*\*\*

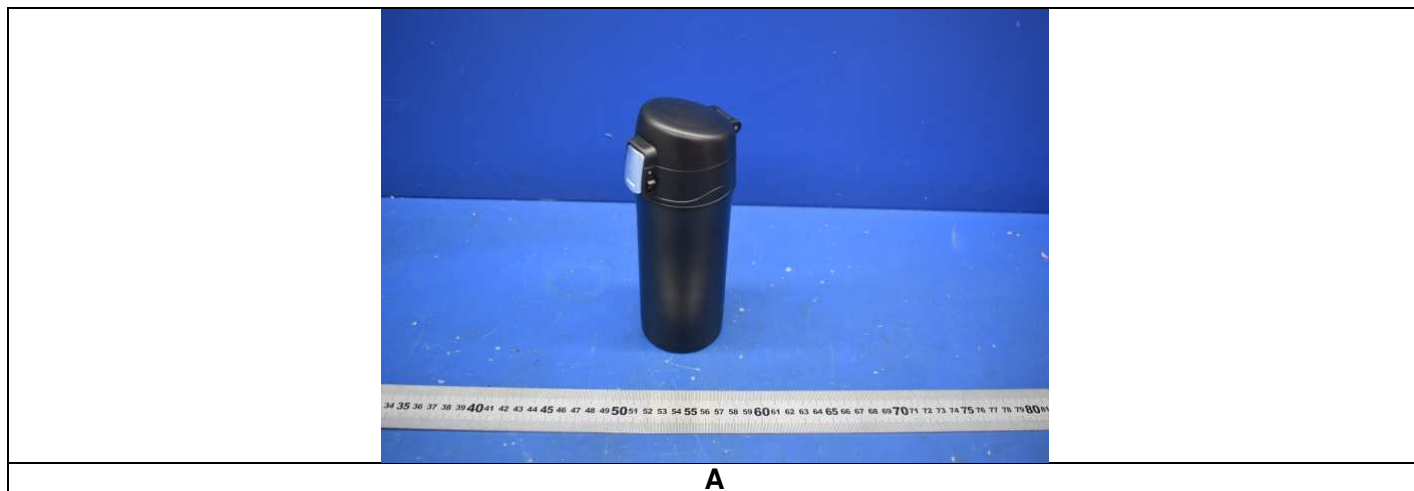
Signed for and on behalf of  
Eurofins Product Testing Service (Shanghai) Co., Ltd



Jackson Zhou  
Chemical Lab Manager

*Samples are obtained by express delivery, Results obtained refer only to samples, products or material received in Laboratory, as described in point related to sample description, and tested in conditions shown in present report. Eurofins Product Testing Service (Shanghai) Co., Ltd ensures that this job has been performed according to our Quality System and complying contract and legal conditions. If you happen to have any comments, please do it by sending email to [info.sh@eurofins.com](mailto:info.sh@eurofins.com) and referring to this report number. Reproduction of this document is only valid if it is done completely and under the written permission of Eurofins Product Testing Service (Shanghai) Co., Ltd. If you happen to have any complaints, please do it by sending email to [chinacomplaint@eurofins.com](mailto:chinacomplaint@eurofins.com) and referring to this report number.*

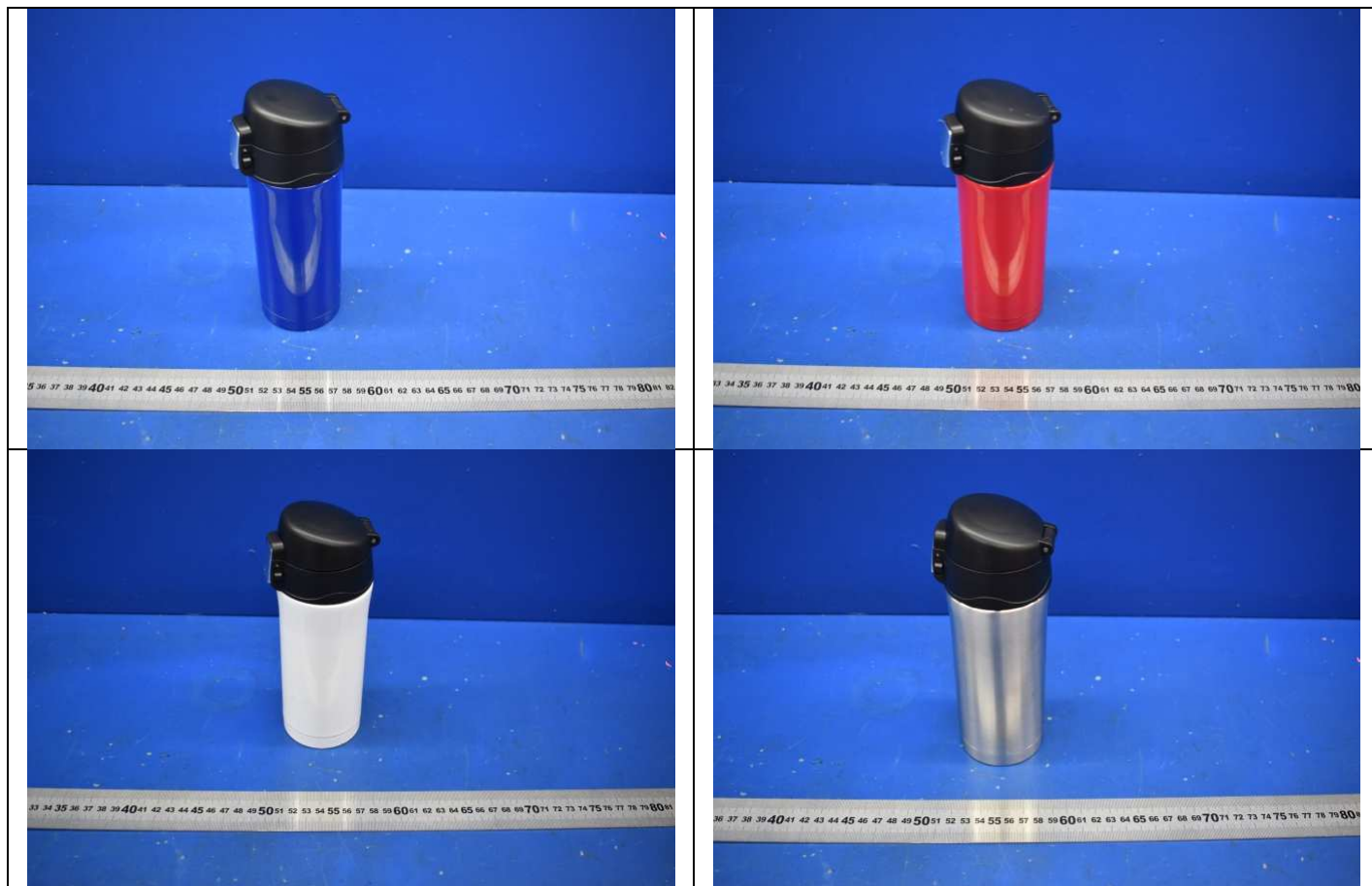
**TEST SAMPLE PHOTO(S)**



**EFSH22012219-CG-01**

\*\*\*TO BE CONTINUED\*\*\*

## REFERENCE SAMPLE PHOTO(S)



Note: The reference sample(s) has not been tested in current report, but according to customer's request, the picture has also been included. For sample tested in current report, please refer to "Test sample photo".

\*\*\*TO BE CONTINUED\*\*\*

## **COMPONENT LIST**

<b>Component No.</b>	<b>Component</b>	<b>Sample No.</b>
1	Black PP lid	A
2	Grey-brown silicone	A
3	Silver stainless steel	A

\*\*\*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 Regulation (EU) 10/2011 for selection of conditions and EN1186-1:2002 for 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 1186-13:2002 modified polyphenylene oxide (MPPO) test  
or EN 1186-14:2002 substitute test

Simulant used	Time	Temperature	Max. Permissible Limit	Result (mg/dm <sup>2</sup> )		
				1		
				1 <sup>st</sup> Test	2 <sup>nd</sup> Test	3 <sup>rd</sup> Test
3% Acetic Acid (W/V) Aqueous Solution	2hrs	100°C	10 mg/dm <sup>2</sup>	<3.0	<3.0	<3.0
50% Ethanol (V/V) Aqueous Solution	2hrs	100°C	10 mg/dm <sup>2</sup>	<3.0	<3.0	<3.0

### Note:

- (1) mg/dm<sup>2</sup>=milligram per square decimeter
- (2) °C=degree Celsius
- (3) <= less than
- (4) Analytical tolerance of aqueous simulants is 1 mg/dm<sup>2</sup>
- (5) Analytical tolerance of fatty food simulants is 3 mg/dm<sup>2</sup>
- (6) Test condition & simulant were specified by client.

\*\*\*TO BE CONTINUED\*\*\*

## **TEST RESULT**

### **Overall Migration**

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

Test Method : With reference to Regulation (EU) 10/2011 for selection of conditions and  
EN1186-1:2002 for 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 1186-13:2002 modified polyphenylene oxide (MPPO) test  
or EN 1186-14:2002 substitute test

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

### **Note:**

- (1) mg/dm<sup>2</sup>=milligram per square decimeter
- (2) °C=degree Celsius
- (3) <= less than
- (4) Analytical tolerance of aqueous simulants is 1 mg/dm<sup>2</sup>
- (5) Analytical tolerance of fatty food simulants is 3 mg/dm<sup>2</sup>
- (6) 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 relating to plastic materials and articles intended to come into contact with foodstuffs.

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

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

Test Condition: 100°C 2hours

Test Item(s)	Max. Permissible limit	Unit	MDL	Result		
				1		
				1 <sup>st</sup> test	2 <sup>nd</sup> test	3 <sup>rd</sup> test
Barium(Ba)	1	mg/kg	0.25	ND	ND	ND
Cobalt(Co)	0.05	mg/kg	0.05	ND	ND	ND
Copper(Cu)	5	mg/kg	0.25	ND	ND	ND
Iron(Fe)	48	mg/kg	0.25	ND	ND	ND
Lithium(Li)	0.6	mg/kg	0.5	ND	ND	ND
Manganese(Mn)	0.6	mg/kg	0.05	ND	ND	ND
Zinc(Zn)	5	mg/kg	0.5	ND	ND	ND
Aluminum(Al)	1	mg/kg	0.1	ND	ND	ND
Nickel(Ni)	0.02	mg/kg	0.01	ND	ND	ND
Antimony(Sb)	0.04	mg/kg	0.01	ND	ND	ND
Arsenic(As)	ND	mg/kg	0.01	ND	ND	ND
Cadmium(Cd)	ND	mg/kg	0.002	ND	ND	ND
Chromium(Cr)	ND	mg/kg	0.01	ND	ND	ND
Lead(Pb)	ND	mg/kg	0.01	ND	ND	ND
Mercury(Hg)	ND	mg/kg	0.01	ND	ND	ND
Europium(Eu)	-	mg/kg	0.01	ND	ND	ND
Gadolinium(Gd)	-	mg/kg	0.01	ND	ND	ND
Lanthanum(La)	-	mg/kg	0.01	ND	ND	ND
Terbium(Tb)	-	mg/kg	0.01	ND	ND	ND
Sum of all lanthanide substances	0.05	mg/kg	-	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.

\*\*\*TO BE CONTINUED\*\*\*

## TEST RESULT

### Specific Migration of Primary Aromatic Amines

Test Request: Specific migration of primary aromatic amines as specified in Commission Regulation (EU) No 10/2011 and its amendments.

Test Method: With reference to EN 13130-1:2004 for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.

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

Test Condition: 100°C 2hours

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					1		
					1 <sup>st</sup> test	2 <sup>nd</sup> test	3 <sup>rd</sup> test
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND

**Remark:**

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Total other primary aromatic amines are 1,4-phenylenediamine (CAS No.: 106-50-3), 2,4-dimethylaniline (CAS No.: 95-68-1), 2,6-dimethylaniline (CAS No.: 87-62-7), aniline (CAS No.: 62-53-3).

\*\*\*TO BE CONTINUED\*\*\*



## TEST RESULT

### Specific Migration of Primary Aromatic Amines

Test Request: Specific migration of primary aromatic amines as specified in Commission Regulation (EU) No 10/2011 and its amendments.

Test Method: With reference to EN 13130-1:2004 for sample preparation, analysis was performed by UV-VIS and LC-MS/MS.

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

Test Condition: 100°C 2hours

Test Item(s)	CAS No.	Unit	Limit	MDL	Result		
					2		
					1 <sup>st</sup> test	2 <sup>nd</sup> test	3 <sup>rd</sup> test
1,3-phenylenediamine	108-45-2	mg/kg	0.002	0.002	ND	ND	ND
2,4,5-trimethylaniline	137-17-7	mg/kg	0.002	0.002	ND	ND	ND
2-methoxy-5-methylaniline	120-71-8	mg/kg	0.002	0.002	ND	ND	ND
2-naphthylamine	91-59-8	mg/kg	0.002	0.002	ND	ND	ND
3,3-dichlorobenzidine	91-94-1	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethoxybenzidine	119-90-4	mg/kg	0.002	0.002	ND	ND	ND
3,3-dimethylbenzidine	119-93-7	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylene-bis-(2-chloro-aniline)	101-14-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenedianiline	101-77-9	mg/kg	0.002	0.002	ND	ND	ND
4,4-methylenendi-o-toluidine	838-88-0	mg/kg	0.002	0.002	ND	ND	ND
4,4-oxydianiline	101-80-4	mg/kg	0.002	0.002	ND	ND	ND
4,4-thiodianiline	139-65-1	mg/kg	0.002	0.002	ND	ND	ND
4-amino-azobenzene	60-09-3	mg/kg	0.002	0.002	ND	ND	ND
4-aminobiphenyl	92-67-1	mg/kg	0.002	0.002	ND	ND	ND
4-chloroaniline	106-47-8	mg/kg	0.002	0.002	ND	ND	ND
4-chloro-o-toluidine	95-69-2	mg/kg	0.002	0.002	ND	ND	ND
4-methoxy-m-phenylenediamine	615-05-4	mg/kg	0.002	0.002	ND	ND	ND
4-methyl-m-phenylenediamine	95-80-7	mg/kg	0.002	0.002	ND	ND	ND
5-nitro-o-toluidine	99-55-8	mg/kg	0.002	0.002	ND	ND	ND
benzidine	92-87-5	mg/kg	0.002	0.002	ND	ND	ND
o-aminoazotoluene	97-56-3	mg/kg	0.002	0.002	ND	ND	ND
o-anisidine	90-04-0	mg/kg	0.002	0.002	ND	ND	ND
o-toluidine	95-53-4	mg/kg	0.002	0.002	ND	ND	ND
Total of other Primary Aromatic Amines	-	mg/kg	0.01	0.01	ND	ND	ND

**Remark:**

mg/kg = milligram per kilogram

MDL = method detection limit

ND = Not detected, less than MDL

Total other primary aromatic amines are 1,4-phenylenediamine (CAS No.: 106-50-3), 2,4-dimethylaniline (CAS No.: 95-68-1), 2,6-dimethylaniline (CAS No.: 87-62-7), aniline (CAS No.: 62-53-3).

\*\*\*TO BE CONTINUED\*\*\*

## **TEST RESULT**

### **Volatile Organic Matter (VOM)**

Test Requested : In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation.

Test Method : With reference to 61<sup>st</sup> Communication on testing of silicon in Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz 46 (2003) 362.

Test Condition : 200°C 4hours

Test Item(s)	Limit	Unit	MDL	Result
				2
Volatile Organic Matter (VOM)	0.5	%(w/w)	0.1	<0.10

**Note:**

- (1) %w/w =percentage of weight by weight
- (2) MDL = method detection limit
- (3) ND = not detected (<MDL)

### **Peroxide Value**

Test Requested : In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation.

Test Method : With reference to European Pharmacopoeia part 2.5.5. Peroxide Value method A.

Test Item(s)	Limit	Result
		2
Peroxide Value	Absent	Absent

\*\*\*TO BE CONTINUED\*\*\*

## **TEST RESULT**

### **Sensorial Examination Odour and Taste Test**

Test Requested : In accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, BfR recommendation.  
Sensorial examination odour and taste test

Test Method : Robinson's test with reference to DIN 10955:1983 (2004)  
Odour test condition: (23±2)°C for 24 hours  
Taste test condition: 100°C 2 hours  
Test media: Distilled water  
No. of panelist: 6

Test Item(s)	Limit	Result
		A
Sensorial examination odour (Point scale)	2.5	0
Sensorial examination taste (Point scale)	2.5	0

Scale evaluation:

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

\*\*\*TO BE CONTINUED\*\*\*

## TEST RESULT

### Specific Release of Heavy Metals

Test Request : 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-MS/ICP-OES.

Simulant Used: 0.5% citric acid

Test Condition: 100°C 2 hours

Test Item(s)	Unit	MDL	Result			
			3			
			1 <sup>st</sup> + 2 <sup>nd</sup> Migration		3 <sup>rd</sup> 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
Magnesium(Mg)	mg/kg	0.1	ND	-	ND	-
Titanium(Ti)	mg/kg	0.1	ND	-	ND	-

### 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\*\*\*