TEST REPORT

APPLICANT	:	Mid Ocean Brands B.V.
ADDRESS	:	7/F, Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong.
SAMPLE DESCRIPTION	:	Double wall vaccum flask
MODEL NO.	:	MO9703
VENDOR CODE	:	118449
MATERIAL NO.	:	Stainless steel
BUYER	:	Mid Ocean Brands B.V.
PRODUCT MATERIAL	:	PP ABS Silicone Stainless steel
COUNTRY OF ORIGIN	:	China
COUNTRY OF DESTINATION	:	EU
SAMPLE RECEIVED DATE	:	22-Nov-2023
FURTHER INFORMATION DATE	:	28-Dec-2023
TURN AROUND TIME	:	22-Nov-2023 to 05-Jan-2024

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

TEST REQUESTED	TEST METHOD/REGULATION	RESULT
Overall Migration	Regulation (EU) No. 10/2011 and its amendments	Pass
Overall Migration-Silicone	Resolution AP (2004) 5	Pass
Specific Migration of Heavy Metal	Regulation (EU) No. 10/2011 and its amendments	Pass
Peroxide Value	French Décret 2007-766 with amendments and French Arrêté du 25 Novembre 1992	Pass
Volatile Organic Matter (VOM)	French Décret 2007-766 with amendments and French Arrêté du 25 Novembre 1992	Pass
Total Bisphenol A (BPA) Content	EPA 3550C:2007, EPA 8321B:2007	Pass
Total Bisphenol A (BPA) Content	French Décret 2007-766 and its amendments, and French Law No. 2012/1442	Pass
Specific Migration of Bisphenol A	Regulation (EU) No. 10/2011 and its amendments	Pass
Specific migration of Organotin (as tin)	French Décret 2007-766 with amendments and French Arrêté du 25 Novembre 1992	Pass
Specific Migration of Acrylonitrile	Regulation (EU) No. 10/2011 and its amendments	Pass
Specific Release of Heavy Metals	EU Resolution CM/Res (2013)9	Pass
Specific Migration of Primary Aromatic Amine	Regulation (EU) No. 10/2011 and its amendments	Pass
Phthalates Content	REACH Annex XVII, Entry 51 & 52	Pass
Total Cadmium Content	REACH Annex XVII, Entry 23	Pass
Total Lead Content	REACH Annex XVII, Entry 63	Pass
Polycyclic Aromatic Hydrocarbons (PAHs)	REACH Annex XVII, Entry 50	Pass

Eurofins（Hangzhou）contact information
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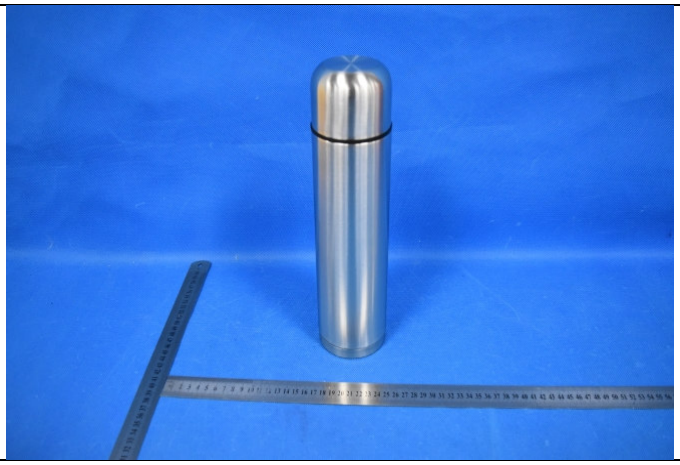
********** FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S) **********

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

Sara Liu
lab manager

SAMPLE PHOTO(S)



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TO BE CONTINUED

COMPONENT LIST

Component No.	Component	Sample No.
1	Silver stainless steel(inner)	A
2	Silver stainless steel(outer)	A
3	Transparent silicone ring	A
4	Black PP lid	A
5	White ABS lid	A

TO BE CONTINUED

TEST RESULT

Overall Migration

Test Request: To determine the Overall Migration in accordance 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; EN1186-3:2022 overall migration in evaporable simulants by filling a container method;

Simulant Used	Time	Temperature	Unit	Limit	Result		
					4		
					1st	2nd	3rd
Acetic Acid 3%	2hours	70° C	mg/dm²	10	<3.0	<3.0	<3.0
Ethanol 50%	2hours	70° C	mg/dm²	10	<3.0	<3.0	<3.0

Test Method: With reference to EN1186-1:2002 for selection of conditions and test methods; EN1186-3:2022 overall migration in evaporable simulants by total immersion method;

Simulant Used	Time	Temperature	Unit	Limit	Result		
					5		
					1st	2nd	3rd
Acetic Acid 3%	2hours	70° C	mg/dm²	10	<3.0	<3.0	<3.0
Ethanol 50%	2hours	70° C	mg/dm²	10	<3.0	<3.0	<3.0

Remark:

mg/dm² = milligram per square decimeter
Test condition & simulant were specified by client.

Overall Migration-Silicone

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

Test Method: With reference to EN1186-1:2002 for selection of conditions and test methods; EN1186-3:2022 overall migration in evaporable simulants by total immersion method;

Simulant Used	Time	Temperature	Unit	Limit	Result		
					3		
					1st	2nd	3rd
Acetic Acid 3%	2hours	70° C	mg/dm²	10	<3.0	<3.0	<3.0
Ethanol 50%	2hours	70° C	mg/dm²	10	<3.0	<3.0	<3.0

Remark:

mg/dm² = milligram per square decimeter
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 in accordance with German Food, Articles of Daily Use and Feed Code of September 1, 2005 (LFGB), Section 30 and 31, and BfR recommendation, Commission Regulation (EU) No. 10/2011 and its amendments.

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

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

Test condition : 70℃ 2hours

Test Item(s)	Max. Permissible limit	Unit	MDL	Test Result		
				4		
				1st Test	2nd Test	3rd Test
Barium(Ba)	1	mg/kg	0.25	ND	ND	ND
Cobalt(Co)	0.05	mg/kg	0.01	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

TO BE CONTINUED

TEST RESULT

Test Item(s)	Max. Permissible limit	Unit	MDL	Test Result		
				5		
				1st Test	2nd Test	3rd Test
Barium(Ba)	1	mg/kg	0.25	ND	ND	ND
Cobalt(Co)	0.05	mg/kg	0.01	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

Remark:

(1) mg/kg = milligram per kilogram
(2) MDL = Method Detection Limit
(3) ND = Not detected, less than MDL
(4) Test condition & simulant were specified by client.
(5) * The result was found to be more than the permissible limit.

TO BE CONTINUED

TEST RESULT

Peroxide Value

Test Request: In accordance with French Décret 2007-766 and its amendments, and French Arrêté du 25 Novembre 1992 for silicone materials.

Sample	Limit	Result
3	Absent	Absent

Volatile Organic Matter (VOM)

Test Request: In accordance with French Décret 2007-766 and its amendments , and French Arrêté du 25 Novembre 1992.
Test Method: With reference to French Arrêté du November 1992 Annex III.
Test Condition: 200℃, 4 hours

Test Item(s)	Unit	Limit	MDL	Result
				3
Volatile Organic Matter (VOM)	%	0.5	0.10	0.32

Total Bisphenol A (BPA) Content

Test Request: Total Bisphenol A (BPA) content as specified in client’s request
Test Method: With reference to EPA 3550C:2007, EPA 8321B:2007, solvent extraction and determination by LC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result	
					4	5
Bisphenol A	80-05-7	mg/kg	1000	0.1	ND	ND

Remarks:
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

Total Bisphenol A (BPA) Content

Test Request: In accordance with French Décret 2007-766 and its amendments, and French Law No. 2012/1442.

Test Method: With reference to EPA 3550C:2007, EPA 8321B:2007, solvent extraction and determination by LC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					3
Bisphenol A	80-05-7	mg/kg	ND	0.10	ND

Remarks:
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Not detected, less than MDL

Specific Migration of Bisphenol A

Test Request: To determine Specific Migration of Bisphenol A in accordance with Commission Regulation (EU) No 10/2011 and its amendments.

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

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

Test Condition: 70℃ 2hours

Test Item(s)	Unit	Limit	MDL	Result		
				3		
				1st Test	2nd Test	3rd Test
2,2-bis(4-hydroxyphenyl) Propane (Bisphenol A)	mg/kg	0.05	0.01	ND	ND	ND

Remark:

1. mg/kg = milligram per kilogram
2. ND = not detected, less than MDL
3. MDL = method detection limit
4. Test condition & simulant were specified by client

TO BE CONTINUED

TEST RESULT

Specific migration of Organotin (as tin)

Test Requested: In accordance with French Décret 2007-766 and its amendments, and French Arrêté du 25 November 1992 for silicone materials.
Test Method: With reference to BS EN 13130-1:2004, analysis was performed by ICP-MS.
Simulant Used: 3% Acetic Acid(W/V) Aqueous Solution
Test Condition: 70℃ 2hours

Test Item(s)	Limit	Unit	MDL	Result		
				3		
				1st Test	2nd Test	3rd Test
Organotin (as tin)	0.1	mg/kg	0.01	ND	ND	ND

Remark:
(1) mg/kg = milligram per kilogram
(2) MDL = method detection limit
(3) ND = not detected (<MDL)

Specific Migration of Acrylonitrile

Test Request: To determine the Specific Migration of Acrylonitrile for compliance with Commission Regulation (EU) No 10/2011 and its amendments.
Test Method: With reference to BS EN 13130-3:2004, analysis was performed by HD-GC-MS.
Simulant Used: 3% Acetic Acid (W/V) Aqueous Solution
Test Condition: 70℃ 2hours

Test Item(s)	Unit	Limit	MDL	Result		
				5		
				1st Test	2nd Test	3rd Test
Acrylonitrile	mg/kg	Not Detectable	0.01	ND	ND	ND

Remark:
1. mg/kg = milligram per kilogram
2. ND = not detected, less than MDL
3. MDL = method detection limit
4. Test condition & simulant were specified by client

TO BE CONTINUED

TEST RESULT

Specific Release of Heavy Metals

Test Request: In accordance with Resolution CM/Res (2013)9 on metals and alloys used in food contact materials and articles.
Test Method: With reference to Resolution CM/Res(2013)9, analysis was performed by ICP-MS.
Simulant Used: 0.5% citric acid
Test Condition: 70℃ 2hours

Test Item(s)	Unit	MDL	Result			
			1			
			1st + 2nd Migration		3rd 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 (Sn) *3	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	-

Remark:
mg/kg =milligram per kilogram
MDL = method detection limit
ND = not detected (<MDL)
SRL = Specific Release Limit
*1 Compliance is established on the result from the third migration test for repeated used articles.
*2 Meantime, the sum of the results of the first and second tests should not exceed 7 times the SRL
*3 Except in field of application under Regulation (EC) No.1881/2006.(canned food container)
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: Acetic Acid 3%
Test Condition: 2h at 70°C

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

TO BE CONTINUED

TEST RESULT

Phthalates Content

Test Request: Phthalates content as specified in entry 51&52 of annex XVII of REACH Regulation (EC) No 1907/2006 and its amendment Commission Regulation (EU) 2018/2005.

Test Method: EPA 3550C:2007, EPA 8270E:2018, solvent extraction and quantification by GC-MS.

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					3+4+5
Dibutylphthalate (DBP)	84-74-2	%	-	0.005	ND
Benzyl butyl phthalate (BBP)	85-68-7	%	-	0.005	ND
Diethylhexylphthalate (DEHP)	117-81-7	%	-	0.005	ND
Di-isobutyl phthalate (DiBP)	84-69-5	%	-	0.005	ND
Sum of (DEHP+DBP+BBP+DIBP)	-	%	0.1	-	ND
Di-n-octylphthalate（DNOP）	117-84-0	%	-	0.005	ND
Diisononyl phthalate (DINP)	28553-12-0	%	-	0.005	ND
Diisodecyl phthalate (DIDP)	26761-40-0	%	-	0.005	ND
Sum (DNOP + DINP + DIDP)	-	%	0.1	-	ND

Remarks:
According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.
1 mg/kg = 1 ppm = 0.0001%
MDL = method detection limit
ND = Not detected, less than MDL
“- “ = Not Regulated

TO BE CONTINUED

TEST RESULT

Total Cadmium Content

Test Request: Total cadmium content as specified in Commission Regulation (EU) 2016/217 amending entry 23 of Annex XVII of REACH Regulation (EC) No 1907/2006.

Test Method: EPA 3050B:1996, EPA 3052:1996, EN 1122:2001 Method B, acid digestion method was used and total cadmium content was determined by ICP-OES.

Test Item(s)	Unit	Limit	MDL	Result
				3+4+5
Total Cadmium	mg/kg	100	5	ND

Remark:
According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Not detected, less than MDL

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/ microwave digestion method was used and total lead content was determined by ICP-OES.

Test Item(s)	Unit	Limit	MDL	Result		
				1+2	3	4+5
Total Lead	mg/kg	500	10	ND	ND	ND

Remark:
According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Not detected, less than MDL

TO BE CONTINUED

TEST RESULT

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 2019:01 PAK

Test Item(s)	CAS No.	Unit	Limit	MDL	Result
					3+4+5
Benz(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)-fluoranthen	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
Dibenz(a,h)anthracene	53-70-3	mg/kg	1	0.2	ND
Benzo(e)pyrene	192-97-2	mg/kg	1	0.2	ND

Remarks:
According to client's request, tests are combination tests. The experimental results are the total result of mixed samples.
mg/kg = milligram per kilogram
MDL = method detection limit
ND = Not detected, less than MDL

END OF THE REPORT