

TEST REPORT

Report No.: DPHTL2503253054E-V2

Date: Apr 11,2025

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Applicant: Mid Ocean Brands B.V.**Address:** 7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong

The following sample(s) and sample information was/were submitted and identified by client as:

Sample Name: Double wall tumbler**Model:** MO2572**Vendor code :** 107978**Receiving Date:** Mar 25,2025**Test Period:** From Mar 25,2025 to Apr 11,2025**Add Information:** This report replaces the original report DPHTL2503253054E-V1 and the original report is invalid**Test Summary:**

#	Test item(s)	Result
1	Item 50 of Annex XVII of REACH Regulation (EC) 1907/2006 & amendment (EU) No 1272/2013 Polycyclic-aromatic hydrocarbons (PAHs) content	PASS
2	Item 23 of Annex XVII of REACH Regulation (EC) 1907/2006 Cadmium content	PASS
3	Item 51&52 of Annex XVII of REACH Regulation (EC) 1907/2006. Phthalate content (DIBP、DEHP、DBP、BBP、DINP、DIDP、DNOP)	PASS
4	Item 63 of Annex XVII of REACH Regulation (EC) 1907/2006 Total Lead content	PASS
5	Dishwasher safe test (complied with the specification of dishwasher safe test according to PAS 54:2003)-BS EN 12875-1:2005	PASS

*****Please refer to the following page for detailed results*****

Authorized Signatory

Mark Mai
(Technical Director)



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#	Test Item(s)	Conclusion
Regulation (EC) No 1935/2004, the Commission Regulation (EU) No 10/2011 and its amendment (EU)2023/1442 and (EU) 2024/3190 - For Plastic Material		
6	Overall migration	PASS
7	Specific migration of Heavy Metal	PASS
8	Specific migration of Primary Aromatic Amine	PASS
9	Bisphenol A (BPA) content	PASS
Regulation (EC) No 1935/2004 and Council of Europe Resolution AP (2004) 5- For Silicone Material		
10	Overall migration	PASS
11	Bisphenol A Contents	PASS
12	Specific migration of Bisphenol A (BPA)	PASS
French Arrêté du 25 Novembre 1992 and French Décret 2007-766 with amendments - For Silicone Material		
13	Overall migration	PASS
14	Specific migration of Bisphenol A (BPA)	PASS
15	Bisphenol A Contents	PASS
16	Specific migration of Organotin (as Tin)	PASS
17	Peroxide Value	PASS
18	Volatile organic matter	PASS
Regulation (EC) No 1935/2004, the Council of Europe Directive 84/500/EEC and its amendment 2005/31/EC - For Ceramic Material		
19	Extractable Lead, Cadmium	PASS
Regulation (EC) No 1935/2004, Council of Europe Resolution CMRes(2020)9 -For Metal Material		
20	Extractable heavy metal	PASS
Regulation (EC) No 1935/2004, the Commission Regulation (EU) No 10/2011 and its amendment (EU)2023/1442 and (EU) 2024/3190 - For Coating Material		
21	Overall migration	PASS
22	Specific migration of Heavy Metal	PASS
23	Specific migration of Primary Aromatic Amine	PASS
24	Bisphenol A (BPA) content	PASS

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Result:

- Polycyclic-aromatic hydrocarbons (PAHs) content - Item 50 of Annex XVII of REACH Regulation (EC) 1907/2006 & amendment (EU) No 1272/2013**
AfPS-GS-2019-01:PAK, determined by GC-MS

Test item(s)		Results					Limit (mg/kg)	MDL (mg/kg)
		Category I *1						
		1	2	3	4	7		
1	Benz[a]anthracene(BaA) CAS#56-55-3	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
2	Chrysene(CHR) CAS#218-01-9	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
3	Benz[b]fluoranthene(BbFA) CAS#205-99-2	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
4	Benz[k]fluoranthene(BkFA) CAS#207-08-9	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
5	Benz[j]fluoranthene(BjFA) CAS#205-82-3	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
6	Benzo[a]pyrene(BaP) CAS#50-32-8	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
7	Benzo[e]pyrene(BeP) CAS#192-97-2	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
8	Dibenz [a,h]anthracene (DBahA) CAS#53-70-3	N.D.	N.D.	N.D.	N.D.	N.D.	1	0.2
-	Conclusion	PASS	PASS	PASS	PASS	PASS	-	-

Remark: (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

1: Result category

Category I: Articles come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use.

Category II: Toys, including activity toys, and childcare articles, that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use.

- Cadmium content - Item 23 of Annex XVII of REACH Regulation (EC) 1907/2006**
IEC 62321-5:2013, determined by AAS

Test item(s)		Result				Limit (mg/kg)	MDL (mg/kg)
		1	2	3	4		
1	Cadmium (Cd) CAS#7440-43-9	N.D.	N.D.	N.D.	N.D.	100	10

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-	Conclusion	PASS	PASS	PASS	PASS	-	-
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Test item(s)		Result	Limit (mg/kg)	MDL (mg/kg)
		7		
1	Cadmium (Cd) CAS#7440-43-9	N.D.	1000	10
-	Conclusion	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

3. Phthalate content (DIBP、DEHP、DBP、BBP、DINP、DIDP、DNOP) - Item 51& 52 of Annex XVII of REACH Regulation (EC) 1907/2006 EN 14372:2004 & IEC 62321-8:2017, determined by GC-MS

Test item(s)			Result					Limit (%)	MDL (%)
			1	2	3	4	7		
1	DBP	Dibutyl Phthalate CAS# 84-74-2	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
2	BBP	Benzylbutyl Phthalate CAS# 85-68-7	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
3	DEHP	Bis-(2-ethylhexyl)Phthalate CAS# 117-81-7	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
4	DIBP	Diisobutyl phthalate CAS# 84-69-5	N.D.	N.D.	N.D.	N.D.	N.D.	0.1	0.005
5	DNOP	Di-n-octyl phthalate CAS# 117-84-0	N.D.	N.D.	N.D.	N.D.	N.D.	-	0.005
6	DINP	Di-iso-nonyl phthalate CAS# 28553-12-0	N.D.	N.D.	N.D.	N.D.	N.D.	-	0.010
7	DIDP	Diisodecyl phthalate CAS# 26761-40-0	N.D.	N.D.	N.D.	N.D.	N.D.	-	0.010
-	Sum of 1, 2, 3 & 4		N.D.	N.D.	N.D.	N.D.	N.D.	0.1	-
-	Sum of 5, 6 & 7		N.D.	N.D.	N.D.	N.D.	N.D.	0.1	-
-	Conclusion		PASS	PASS	PASS	PASS	PASS	-	-

Remark(s): (a) MDL: Method detected limit
(b) N.D.: Not detected (result is less than MDL)

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4. Total Lead content -Item 63 of Annex XVII of REACH Regulation (EC) 1907/2006 IEC 62321-5:2013, determined by AAS

Test item(s)		Result							Limit (mg/kg)	MDL (mg/kg)
		1	2	3	4	5	6	7		
1	Lead(Pb) CAS#7439-92-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	500	10
-	Conclusion	PASS	PASS	PASS	PASS	PASS	PASS	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

5. Dishwasher safe test (complied with the specification of dishwasher safe test according to PAS 54:2003) BS EN 12875-1:2005

After 10 cycles	Sample	8A	8B	8C
	Color ¹⁾	0	0	0
	Gloss	0	0	0
	Clouding	0	0	0
	Resistant deposits and iridescent layers ²⁾	0	0	0
	Other aspects	0	0	0

Remark(s): 1).If several colours are present on one article to be inspected, the colour with the greatest change shall be chosen.
2).For the elimination of easily removable deposits.
3).See photo bar for test photos

Note: Pictures are for reference only. Actual colours of the pictures may vary due to lighting and output process.
Evaluation of inspection criteria quoted from BS EN 12875-1:2005.

Classification	Rating
0	No visible change
1	First discernible change
2	Clearly visible change

Requirements quoted from Publicly Available Specification PAS 54: 2003

Articles that are designated “dishwasher resistant”, “dishwasher proof”, “dishwasher safe” or any other similar description that suggests that the articles can be safely cleaned in a dishwasher shall, either show no visible change compared with untreated tableware (Classification 0) or show very slightly visible change(Classification 1) but shall not show clearly visible change (Classification 2)

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Regulation (EC) No 1935/2004, the Commission Regulation (EU) No 10/2011 and its amendment (EU)2023/1442 and (EU) 2024/3190 - For Plastic Material

6. Overall migration EN 1186-1:2002 & EN 1186-3:2022

Test Item(s)		Result			Limit (mg/dm ²)	MDL (mg/dm ²)
		1				
		1 st	2 nd	3 rd		
1	3%acetic acid ,70℃ , 2h	N.D.	N.D.	N.D.	10	3
2	50%Ethanol,70℃ , 2h	N.D.	N.D.	N.D.	10	3
-	Conclusion	-	-	PASS	-	-

Remark(s): (a) mg/dm²: milligram square decimetre
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

7. Specific migration of Heavy Metal EN 13130-1: 2004, determined by ICP-OES,ICP-MS,IC

Test condition: 3%Acetic acid, 70℃, 2h

Test Item(s)		Result(s)			Limit (mg/kg)	MDL (mg/kg)
		1				
		1 st	2 nd	3 rd		
1	Aluminum (Al)	N.D.	N.D.	N.D.	1	0.1
2	Ammonium	N.D.	N.D.	N.D.	-	0.1
3	Antimony (Sb)	N.D.	N.D.	N.D.	0.04	0.01
4	Arsenic (As)	N.D.	N.D.	N.D.	Not Detected	0.01
5	Barium (Ba)	N.D.	N.D.	N.D.	1	0.1
6	Cadmium(Cd)	N.D.	N.D.	N.D.	Not Detected	0.002
7	Calcium(Ca)	0.4	N.D.	N.D.	-	0.1
8	Chromium (Cr)	N.D.	N.D.	N.D.	Not Detected	0.01
9	Cobalt (Co)	N.D.	N.D.	N.D.	0.05	0.01

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10	Copper (Cu)	N.D.	N.D.	N.D.	5	0.5
11	Europium (Eu)	N.D.	N.D.	N.D.	0.05*	0.01
12	Gadolinium (Gd)	N.D.	N.D.	N.D.	0.05*	0.01
13	Iron (Fe)	N.D.	N.D.	N.D.	48	1
14	Lanthanum (La)	N.D.	N.D.	N.D.	0.05*	0.01
15	Lead(Pb)	N.D.	N.D.	N.D.	Not Detected	0.01
16	Lithium (Li)	N.D.	N.D.	N.D.	0.6	0.1
17	Magnesium(Mg)	N.D.	N.D.	N.D.	-	0.1
18	Manganese (Mn)	N.D.	N.D.	N.D.	0.6	0.05
19	Mercury(Hg)	N.D.	N.D.	N.D.	Not Detected	0.01
20	Nickel (Ni)	N.D.	N.D.	N.D.	0.02	0.01
21	Potassium(K)	N.D.	N.D.	N.D.	-	0.1
22	Sodium(Na)	N.D.	N.D.	N.D.	-	0.1
23	Terbium (Tb)	N.D.	N.D.	N.D.	0.05*	0.01
24	Zinc (Zn)	N.D.	N.D.	N.D.	5	1
-	Conclusion	-	-	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
 (b) MDL: Method detected limit
 (c) N.D.: Not detected (result is less than MDL)
 (d)*:The sum of all lanthanide substances migrating to the food or food simulant does not exceed the specific migration limit of 0,05 mg/kg

8. Specific migration of Primary Aromatic Amine EN 13130-1:2004, determined by LC-MS/MS

Test Condition: 3%Acetic acid, 70°C, 2h

Test Item(s)		Result(s)			Limit (mg/kg)	MDL (mg/kg)
		1				
		1 st	2 nd	3 rd		
1	biphenyl-4-ylamine 4- aminobiphenyl xenylamine CAS No.:92-67-1	N.D.	N.D.	N.D.	0.002	0.002
2	Benzidine CAS No.:92-87-5	N.D.	N.D.	N.D.	0.002	0.002

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3	4-chloro-o-toluidine CAS No.:95-69-2	N.D.	N.D.	N.D.	0.002	0.002
4	2-Naphthylamine CAS No.:91-59-8	N.D.	N.D.	N.D.	0.002	0.002
5	o-aminoazotoluene 4-amino-2',3-dimethylazobenzene 4-o-tolylazo-o-toluidine CAS No.:97-56-3	N.D.	N.D.	N.D.	0.002	0.002
6	5-nitro-o-toluidine CAS No.:99-55-8	N.D.	N.D.	N.D.	0.002	0.002
7	4-Chloroaniline CAS No.:106-47-8	N.D.	N.D.	N.D.	0.002	0.002
8	4-methoxy-m-phenylenediamine CAS No.:615-05-4	N.D.	N.D.	N.D.	0.002	0.002
9	4,4'-methylenedianiline 4,4'-diaminodiphenylmethane CAS No.:101-77-9	N.D.	N.D.	N.D.	0.002	0.002
10	3,3'-dichlorobenzidine 3,3'-dichlorobiphenyl-4,4'-ylenediamine CAS No.:91-94-1	N.D.	N.D.	N.D.	0.002	0.002
11	3,3'-dimethoxybenzidine o-dianisidine CAS No.:119-90-4	N.D.	N.D.	N.D.	0.002	0.002
12	3,3'-dimethylbenzidine 4,4'-bi-o-toluidine CAS No.:119-93-7	N.D.	N.D.	N.D.	0.002	0.002
13	4,4'-methylenedi-o-toluidine CAS No.:838-88-0	N.D.	N.D.	N.D.	0.002	0.002
14	6-methoxy-m-toluidine p- cresidine CAS No.:120-71-8	N.D.	N.D.	N.D.	0.002	0.002
15	4,4'-methylene-bis-(2-chloro- aniline) 2,2'-dichloro-4,4'-methylene- dianiline CAS No.:101-14-4	N.D.	N.D.	N.D.	0.002	0.002
16	4,4'-oxydianiline CAS No.:101-80-4	N.D.	N.D.	N.D.	0.002	0.002
17	4,4'-thiodianiline CAS No.:139-65-1	N.D.	N.D.	N.D.	0.002	0.002
18	o-toluidine 2-aminotoluene CAS No.:95-53-4	N.D.	N.D.	N.D.	0.002	0.002
19	4-methyl-m-phenylenediamine CAS No.:95-80-7	N.D.	N.D.	N.D.	0.002	0.002
20	2,4,5-trimethylaniline CAS No.:137-17-7	N.D.	N.D.	N.D.	0.002	0.002
21	o-anisidine 2-methoxyaniline CAS No.:90-04-0	N.D.	N.D.	N.D.	0.002	0.002

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22	4-amino azobenzene CAS No.:60-09-3	N.D.	N.D.	N.D.	0.002	0.002
23	m-Phenylenediamine (m- PDA) CAS No.:108-45-2	N.D.	N.D.	N.D.	0.002	0.002
24	1,5- Diaminenaphthalene CAS No.:2243-62-01	N.D.	N.D.	N.D.	-	0.002
25	Aniline (ANL) CAS No.:62-53-3	N.D.	N.D.	N.D.	-	0.002
26	2,4-Dimethylaniline (2,4-DMA) CAS No.:95-68-1	N.D.	N.D.	N.D.	-	0.002
27	2,6-Dimethylaniline (2,6-DMA) CAS No.:87-62-7	N.D.	N.D.	N.D.	-	0.002
28	m-Phenylenediamine (m- PDA) CAS No.:108-45-2	N.D.	N.D.	N.D.	-	0.002
29	p-Phenylenediamine (p-PDA) CAS No.:106-50-3	N.D.	N.D.	N.D.	-	0.002
30	2,6-Toluenediamine (2,6- TDA) CAS No.:823-40-5	N.D.	N.D.	N.D.	-	0.002
-	Sum of 24~30	N.D.	N.D.	N.D.	0.01	-
-	Conclusion	-	-	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

9. Bisphenol A Contents

In-house Method, determined by LC-MS/MS

Test Item		Result	Limit (mg/kg)	MDL (mg/kg)
		1		
1	Bisphenol A	N.D.	Prohibit	0.001
-	Conclusion	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

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Regulation (EC) No 1935/2004 ,the Commission Regulation (EU) 2024/3190 and Council of Europe Resolution AP (2004) 5- For Silicone Material

10 Overall Migration EN 1186-1:2002 & EN 1186-3:2022

Test Item		Result		Limit (mg/dm ²)	MDL (mg/dm ²)
		3 ^{-3rd}	4 ^{-3rd}		
1	3% Acetic acid, 70°C, 2h	N.D.	N.D.	10	3
2	50% Ethanol, 70°C, 2h	N.D.	N.D.	10	3
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) mg/dm²: milligram square decimetre
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

11. Bisphenol A Contents In-house Method, determined by LC-MS/MS

Test Item		Result		Limit (mg/kg)	MDL (mg/kg)
		3	4		
1	Bisphenol A	N.D.	N.D.	Prohibit	0.001
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

12. Specific migration of Bisphenol A DD CEN/TS 13130-13:2005, determined by LC-MS-MS

Test Condition: 3% Acetic acid, 70°C, 2h

Test Item		Result		Limit (mg/kg)	MDL (mg/kg)
		3 ^{-3rd}	4 ^{-3rd}		
1	Bisphenol A (BPA)	N.D.	N.D.	Prohibit	0.001
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

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French Arrêté du 25 Novembre 1992 and French Décret 2007-766 with amendments - For Silicone Material

13. Overall Migration for Silicone Materials in Contact with Foodstuffs EN 1186-1:2002 & EN 1186-3:2022

Test Item(s)		Result		Limit (mg/dm ²)	MDL (mg/dm ²)
		3 ^{-3rd}	4 ^{-3rd}		
1	50%Ethanol, 70°C , 2h	N.D.	N.D.	10	3
2	3%acetic acid , 70°C , 2h	N.D.	N.D.	10	3
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) mg/dm²: milligram square decimetre
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

14. Specific migration of Bisphenol A DD CEN/TS 13130-13:2005, determined by LC-MS-MS

Test Condition: 3% Acetic acid, 70°C, 2h

Test Item(s)		Result		Limit (mg/kg)	MDL (mg/kg)
		3 ^{-3rd}	4 ^{-3rd}		
1	Bisphenol A (BPA)	N.D.	N.D.	Prohibit	0.001
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

15. Bisphenol A (BPA) content In-house Method,determined by LC-MS-MS

Test Item(s)		Result		Limit (mg/kg)	MDL (mg/kg)
		3	4		
1	Bisphenol A	N.D.	N.D.	Prohibit	0.001
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) MDL: Method detected limit
(b) N.D.: Not detected (result is less than MDL)

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16. Specific migration of Organotin(as Tin) EN 13130-1:2004, determined by ICP-OES

Test condition: 3% Acetic acid, 70°C, 2h

Test Item(s)		Result		Limit (mg/kg)	MDL (mg/kg)
		3 ^{-3rd}	4 ^{-3rd}		
1	Organotin(as Sn)	N.D.	N.D.	0.1	0.01
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

17. Peroxide Value Europe pharmacopoeia,9.0 chapter 2.5.5.

Test Item(s)		Result		Requirement
		3	4	
1	Peroxide Value	Negative	Negative	Negative
-	Conclusion	PASS	PASS	-

18. Volatile organic matter French Arrêté du Novembre 1992 Annex III.

Test condition: 200°C, 4h

Test Item(s)		Result		Limit (%)	MDL (%)
		3	4		
1	Volatile Compounds	N.D.	N.D.	0.5	0.1
-	Conclusion	PASS	PASS	-	-

Remark(s): (a) MDL: Method detected limit

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Regulation (EC) No 1935/2004, the Council of Europe Directive 84/500/EEC and its amendment 2005/31/EC - For Ceramic Material

19. Extractable Lead, Cadmium 84/500/EEC&2005/31/EC, determined by AAS

Test Condition: 4% Acetic acid, 22°C, 24h

Test Item(s)		Result(s)	Limit (mg/L)	MDL (mg/L)
		6		
1	Lead (Pb)	N.D.	4	0.1
2	Cadmium (Cd)	N.D.	0.3	0.01
-	Conclusion	PASS	-	-

Remark(s): (a) mg/L: milligram per litre
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

Regulation (EC) No 1935/2004, Council of Europe Resolution CMRes(2020)9 -For Metal Material

20 Specific Migration of Heavy Metal EDQM on metals and alloys used in food contact materials and articles 2nd Edition, determined by ICP-OES&ICP-MS

Test condition: 0.5%Citric Acid,70°C, 2h

Elements		Material		Limit (mg/kg)		MDL (mg/kg)	
		5					
		1 st + 2 nd	3 rd	1 st + 2 nd	3 rd	1 st + 2 nd	3 rd
1	Tin (Sn)	N.D.	N.D.	700	100	2	1
2	Copper (Cu)	N.D.	N.D.	28	4	2	1
3	Iron (Fe)	N.D.	N.D.	280	40	2	1
4	Manganese (Mn)	N.D.	N.D.	3.85	0.55	0.2	0.1
5	Zinc (Zn)	N.D.	N.D.	35	5	2	1
6	Aluminum (Al)	N.D.	N.D.	35	5	2	1
7	Barium (Ba)	N.D.	N.D.	8.4	1.2	0.2	0.1
8	Chromium (Cr)	N.D.	N.D.	7	1	0.1	0.05
9	Nickel (Ni)	N.D.	N.D.	0.98	0.14	0.1	0.05

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10	Lithium (Li)	N.D.	N.D.	0.336	0.048	0.02	0.01
11	Beryllium (Be)	N.D.	N.D.	0.07	0.01	0.002	0.001
12	Vanadium (V)	N.D.	N.D.	0.07	0.01	0.002	0.001
13	Cobalt (Co)	N.D.	N.D.	0.14	0.02	0.002	0.001
14	Molybdenum (Mo)	N.D.	N.D.	0.84	0.12	0.02	0.01
15	Silver (Ag)	N.D.	N.D.	0.56	0.08	0.02	0.01
16	Antimony (Sb)	N.D.	N.D.	0.28	0.04	0.02	0.01
17	Lead (Pb)	N.D.	N.D.	0.07	0.01	0.002	0.001
18	Arsenic (As)	N.D.	N.D.	0.014	0.002	0.002	0.001
19	Cadmium (Cd)	N.D.	N.D.	0.035	0.005	0.002	0.001
20	Mercury (Hg)	N.D.	N.D.	0.021	0.003	0.002	0.001
21	Thallium (Tl)	N.D.	N.D.	0.007	0.001	0.0002	0.0001
22	Magnesium (Mg)	N.D.	N.D.	-	-	2	1
23	Titanium (Ti)	N.D.	N.D.	-	-	2	1
24	Zirconium(Zr)	N.D.	N.D.	14	2	0.2	0.1
-	Conclusion	PASS	PASS	-	-	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

Regulation (EC) No 1935/2004, the Commission Regulation (EU) No 10/2011 and its amendment (EU)2023/1442 and (EU) 2024/3190 - For Coating Material

21. Overall migration EN 1186-1:2002 & EN 1186-3:2022

Test Item(s)		Result			Limit (mg/dm ²)	MDL (mg/dm ²)
		7				
		1 st	2 nd	3 rd		
1	3% Acetic acid, 100°C, 1h	N.D.	N.D.	N.D.	10	3

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2	50% Ethanol, 100℃, 1h	N.D.	N.D.	N.D.	10	3
-	Conclusion	-	-	PASS	-	-

Remark(s): (a) mg/dm²: milligram square decimetre
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

22. Specific migration of Heavy Metal EN 13130-1: 2004, determined by ICP-OES,ICP-MS,IC

Test condition: 3% Acetic acid, hot-fill,40℃,24h

Test Item(s)		Result(s)			Limit (mg/kg)	MDL (mg/kg)
		7				
		1 st	2 nd	3 rd		
1	Aluminum (Al)	N.D.	N.D.	N.D.	1	0.1
2	Ammonium	N.D.	N.D.	N.D.	-	0.1
3	Antimony (Sb)	N.D.	N.D.	N.D.	0.04	0.01
4	Arsenic (As)	N.D.	N.D.	N.D.	Not Detected	0.01
5	Barium (Ba)	N.D.	N.D.	N.D.	1	0.1
6	Cadmium(Cd)	N.D.	N.D.	N.D.	Not Detected	0.002
7	Calcium(Ca)	N.D.	N.D.	N.D.	-	0.1
8	Chromium (Cr)	N.D.	N.D.	N.D.	Not Detected	0.01
9	Cobalt (Co)	N.D.	N.D.	N.D.	0.05	0.01
10	Copper (Cu)	N.D.	N.D.	N.D.	5	0.5
11	Europium (Eu)	N.D.	N.D.	N.D.	0.05*	0.01
12	Gadolinium (Gd)	N.D.	N.D.	N.D.	0.05*	0.01
13	Iron (Fe)	N.D.	N.D.	N.D.	48	1
14	Lanthanum (La)	N.D.	N.D.	N.D.	0.05*	0.01
15	Lead(Pb)	N.D.	N.D.	N.D.	Not Detected	0.01
16	Lithium (Li)	N.D.	N.D.	N.D.	0.6	0.1
17	Magnesium(Mg)	N.D.	N.D.	N.D.	-	0.1

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18	Manganese (Mn)	N.D.	N.D.	N.D.	0.6	0.05
19	Mercury(Hg)	N.D.	N.D.	N.D.	Not Detected	0.01
20	Nickel (Ni)	N.D.	N.D.	N.D.	0.02	0.01
21	Potassium(K)	N.D.	N.D.	N.D.	-	0.1
22	Sodium(Na)	N.D.	N.D.	N.D.	-	0.1
23	Terbium (Tb)	N.D.	N.D.	N.D.	0.05*	0.01
24	Zinc (Zn)	N.D.	N.D.	N.D.	5	1
-	Conclusion	-	-	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
 (b) MDL: Method detected limit
 (c) N.D.: Not detected (result is less than MDL)
 (d)*:The sum of all lanthanide substances migrating to the food or food simulant does not exceed the specific migration limit of 0,05 mg/kg

23. Specific migration of Primary Aromatic Amine EN 13130-1:2004, determined by LC-MS/MS

Test Condition: 3% Acetic acid, hot-fill,40°C,24h

Test Item(s)		Result(s)			Limit (mg/kg)	MDL (mg/kg)
		7				
		1 st	2 nd	3 rd		
1	biphenyl-4-ylamine 4- aminobiphenyl xenylamine CAS No.:92-67-1	N.D.	N.D.	N.D.	0.002	0.002
2	Benzidine CAS No.:92-87-5	N.D.	N.D.	N.D.	0.002	0.002
3	4-chloro-o-toluidine CAS No.:95-69-2	N.D.	N.D.	N.D.	0.002	0.002
4	2-Naphthylamine CAS No.:91-59-8	N.D.	N.D.	N.D.	0.002	0.002
5	o-aminoazotoluene 4- amino-2',3- dimethylazobenzene 4-o-tolylazo-o-toluidine CAS No.:97-56-3	N.D.	N.D.	N.D.	0.002	0.002
6	5-nitro-o-toluidine CAS No.:99-55-8	N.D.	N.D.	N.D.	0.002	0.002
7	4-Chloroaniline CAS No.:106-47-8	N.D.	N.D.	N.D.	0.002	0.002
8	4-methoxy-m- phenylenediamine CAS No.:615-05-4	N.D.	N.D.	N.D.	0.002	0.002

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9	4,4'-methylenedianiline 4,4'-diaminodiphenylmethane CAS No.:101-77-9	N.D.	N.D.	N.D.	0.002	0.002
10	3,3'-dichlorobenzidine 3,3'- dichlorobiphenyl-4,4'- ylenediamine CAS No.:91-94-1	N.D.	N.D.	N.D.	0.002	0.002
11	3,3'-dimethoxybenzidine o- dianisidine CAS No.:119-90-4	N.D.	N.D.	N.D.	0.002	0.002
12	3,3'-dimethylbenzidine 4,4'-bi-o-toluidine CAS No.:119-93-7	N.D.	N.D.	N.D.	0.002	0.002
13	4,4'-methylenedi-o-toluidine CAS No.:838-88-0	N.D.	N.D.	N.D.	0.002	0.002
14	6-methoxy-m-toluidine p- cresidine CAS No.:120-71-8	N.D.	N.D.	N.D.	0.002	0.002
15	4,4'-methylene-bis-(2-chloro- aniline) 2,2'-dichloro-4,4'-methylene- dianiline CAS No.:101-14-4	N.D.	N.D.	N.D.	0.002	0.002
16	4,4'-oxydianiline CAS No.:101-80-4	N.D.	N.D.	N.D.	0.002	0.002
17	4,4'-thiodianiline CAS No.:139-65-1	N.D.	N.D.	N.D.	0.002	0.002
18	o-toluidine 2-aminotoluene CAS No.:95-53-4	N.D.	N.D.	N.D.	0.002	0.002
19	4-methyl-m-phenylenediamine CAS No.:95-80-7	N.D.	N.D.	N.D.	0.002	0.002
20	2,4,5-trimethylaniline CAS No.:137-17-7	N.D.	N.D.	N.D.	0.002	0.002
21	o-anisidine 2-methoxyaniline CAS No.:90-04-0	N.D.	N.D.	N.D.	0.002	0.002
22	4-amino azobenzene CAS No.:60-09-3	N.D.	N.D.	N.D.	0.002	0.002
23	m-Phenylenediamine (m- PDA) CAS No.:108-45-2	N.D.	N.D.	N.D.	0.002	0.002
24	1,5- Diaminenaphthalene CAS No.:2243-62-01	N.D.	N.D.	N.D.	-	0.002
25	Aniline (ANL) CAS No.:62-53-3	N.D.	N.D.	N.D.	-	0.002
26	2,4-Dimethylaniline (2,4-DMA) CAS No.:95-68-1	N.D.	N.D.	N.D.	-	0.002
27	2,6-Dimethylaniline (2,6-DMA) CAS No.:87-62-7	N.D.	N.D.	N.D.	-	0.002

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28	m-Phenylenediamine (m- PDA) CAS No.:108-45-2	N.D.	N.D.	N.D.	-	0.002
29	p-Phenylenediamine (p-PDA) CAS No.:106-50-3	N.D.	N.D.	N.D.	-	0.002
30	2,6-Toluenediamine (2,6- TDA) CAS No.:823-40-5	N.D.	N.D.	N.D.	-	0.002
-	Sum of 24~30	N.D.	N.D.	N.D.	0.01	-
-	Conclusion	-	-	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

24. Bisphenol A Contents

In-house Method, determined by LC-MS/MS

Test Item		Result	Limit (mg/kg)	MDL (mg/kg)
		7		
1	Bisphenol A	N.D.	Prohibit	0.001
-	Conclusion	PASS	-	-

Remark(s): (a) mg/kg: milligram per kilogram
(b) MDL: Method detected limit
(c) N.D.: Not detected (result is less than MDL)

Material List:

Material #	Sample Description / Position	Client's Material Statement
1	Black plastic,lid	PP
2	Black plastic,cup	RPP
3	Translucent silicone,sealring	Silicone
4	Black silicone	Silicone
5	Silvery metal,cup	stainless steel
6	White enamel,liner	enamel
7	White coating,liner	coating
8	Article	-

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Photo(s):



Test Sample Photo



Product Photo

<<< <<< END OF REPORT >>> >>>

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