

TEST REPORT

Test Report # 19H-008158 Date of Report Issue: November 16, 2019
Date of Sample Received: November 5, 2019 Pages: Page 1 of 15

CLIENT INFORMATION:

Company: Numo Manufacturing
Recipient: Rebecca Williams
Recipient Email: rwilliams@numomfg.com



SAMPLE INFORMATION:

Description: Sublimation Mugs - B312-1621, B312-1613, B308-2513, B308-2521
Assortment: - Purchase Order Number: -
SKU/style No.: - Toy Co./Agency: -
Factory/Supplier/Vendor: Numo Manufacturing Country of Origin: China
Country of Distribution: - Labeled Age Grade: -
Quantity Submitted: 12 pcs per style Recommended Age Grade: -
Testing Period: 11/05/2019 – 11/16/2019 Tested Age Grade: -
Previous Test Report No.: 17H-003766

OVERALL RESULT:

 **PASS**

Refer to page 2 for test result summary and appropriate notes.

QIMA Testing (HK) Limited

Loska Yeung Lok Ka
Assistant Manager, Chemical Laboratory

QIMA Testing (HK) Limited

Ricky Cheung Chin Yeung
Manager, Physical Laboratory

TEST RESULTS SUMMARY:

At the request of the client, the following tests were conducted:

CONCLUSION	TEST(S) CONDUCTED
PASS	Client's Requirement, Total Cadmium in Glass and Ceramic Materials ^ϕ
PASS	California Proposition 65, Leachable Lead and Cadmium from Food Contact Articles – Interior
PASS	FDA CPG 545.400 & CPG 545.450, Leachable Cadmium and Lead from Ceramics – Interior
PASS	California Proposition 65, Leachable Lead and Cadmium from Food Contact Articles – Lip and Rim
PASS	Client Performance Requirement - Dishwasher Test [#]
PASS	Client Safety Requirement – Microwave Safe Test [#]
PASS	Client Performance Requirement - Thermal Shock Test [#]

DETAILED RESULTS:

Client's Requirement, Total Cadmium in Glass and Ceramic Materials

Test Method: In-House Method^ϕ
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	7	8	9	10	---	Total Limit (ppm)
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Cadmium (Cd)	ND	ND	ND	ND	---	40
Conclusion	PASS	PASS	PASS	PASS	---	

Note:

ppm (Parts per million) = mg/kg (Milligrams per kilogram)

LT = Less than

ND = Not detected (Reporting Limit = 20 ppm)

Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

California Proposition 65, Leachable Lead and Cadmium from Food Contact Articles – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1A	1B	1C	1D	1E	1F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	430	430	430	430	430	430		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.189
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.100
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:
 mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.189	0.100
	Flatware (Average of 6)	0.5	0.226
	Large Hollowware (Any of 6)	0.049	0.100
	Small Hollowware (Any of 6)	0.189	0.100
	Pitchers (Any of 6)	0.049	0.100

DETAILED RESULTS:

California Proposition 65, Leachable Lead and Cadmium from Food Contact Articles – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	2A	2B	2C	2D	2E	2F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	330	330	330	330	330	330		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.189
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.100
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:
 mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.189	0.100
	Flatware (Average of 6)	0.5	0.226
	Large Hollowware (Any of 6)	0.049	0.100
	Small Hollowware (Any of 6)	0.189	0.100
	Pitchers (Any of 6)	0.049	0.100

DETAILED RESULTS:

California Proposition 65, Leachable Lead and Cadmium from Food Contact Articles – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	3A	3B	3C	3D	3E	3F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	430	430	430	430	430	430		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.189
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.100
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:

mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.189	0.100
	Flatware (Average of 6)	0.5	0.226
	Large Hollowware (Any of 6)	0.049	0.100
	Small Hollowware (Any of 6)	0.189	0.100
	Pitchers (Any of 6)	0.049	0.100

DETAILED RESULTS:

California Proposition 65, Leachable Lead and Cadmium from Food Contact Articles – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	4A	4B	4C	4D	4E	4F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	330	330	330	330	330	330		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.189
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.100
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:
 mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.189	0.100
	Flatware (Average of 6)	0.5	0.226
	Large Hollowware (Any of 6)	0.049	0.100
	Small Hollowware (Any of 6)	0.189	0.100
	Pitchers (Any of 6)	0.049	0.100

DETAILED RESULTS:

FDA CPG 545.400 & CPG 545.450, Leachable Cadmium and Lead from Ceramics – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1A	1B	1C	1D	1E	1F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	430	430	430	430	430	430		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.5
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.5
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:
 mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.5	0.5
	Flatware (Average of 6)	0.5	3.0
	Large Hollowware (Any of 6)	0.25	1.0
	Small Hollowware (Any of 6)	0.5	2.0
	Pitchers (Any of 6)	0.25	0.5

DETAILED RESULTS:

FDA CPG 545.400 & CPG 545.450, Leachable Cadmium and Lead from Ceramics – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	2A	2B	2C	2D	2E	2F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	330	330	330	330	330	330		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.5
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.5
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:
 mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.5	0.5
	Flatware (Average of 6)	0.5	3.0
	Large Hollowware (Any of 6)	0.25	1.0
	Small Hollowware (Any of 6)	0.5	2.0
	Pitchers (Any of 6)	0.25	0.5

DETAILED RESULTS:

FDA CPG 545.400 & CPG 545.450, Leachable Cadmium and Lead from Ceramics – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	3A	3B	3C	3D	3E	3F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	430	430	430	430	430	430		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.5
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.5
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:
 mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.5	0.5
	Flatware (Average of 6)	0.5	3.0
	Large Hollowware (Any of 6)	0.25	1.0
	Small Hollowware (Any of 6)	0.5	2.0
	Pitchers (Any of 6)	0.25	0.5

DETAILED RESULTS:

FDA CPG 545.400 & CPG 545.450, Leachable Cadmium and Lead from Ceramics – Interior

Test Method: ASTM C738-94(Reapproved 2016)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	4A	4B	4C	4D	4E	4F	Average (mg/L)	Limit (mg/L)
Test Item	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)		
Volume of acid used (mL)	330	330	330	330	330	330		
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	NA	0.5
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	NA	0.5
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS		

Note:
 mL = Millilitres
 mg/L (Milligrams per litre) = ppm (Parts per million)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 mg/L; Cd = 0.02 mg/L)

Category		Leachable Cd (mg/L)	Leachable Pb (mg/L)
X	Cups and Mugs (Any of 6)	0.5	0.5
	Flatware (Average of 6)	0.5	3.0
	Large Hollowware (Any of 6)	0.25	1.0
	Small Hollowware (Any of 6)	0.5	2.0
	Pitchers (Any of 6)	0.25	0.5

DETAILED RESULTS:

California Proposition 65, Leachable Lead and Cadmium from Food Contact Articles – Lip and Rim

Test Method: ASTM C927-80(2019)
 Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	5A	5B	5C	5D	5E	5F	Limit (ppm)
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Volume of acid used (mL)	200	200	200	200	200	200	
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	2.0
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	0.5
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS	

Specimen No.	6A	6B	6C	6D	6E	6F	Limit (ppm)
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Volume of acid used (mL)	200	200	200	200	200	200	
Leachable Cadmium (Cd)	ND	ND	ND	ND	ND	ND	2.0
Leachable Lead (Pb)	ND	ND	ND	ND	ND	ND	0.5
Conclusion	PASS	PASS	PASS	PASS	PASS	PASS	

Note:
 mL = Millilitres
 ppm (Parts per million) = mg/L (Milligrams per litre)
 NA = Not applicable
 LT = Less than
 ND = Not detected (Reporting Limit: Pb = 0.04 ppm; Cd = 0.02 ppm)

DETAILED RESULTS:

Client Performance Requirement - Dishwasher Test[#]

(Styles: B312-1613, B312-1621)

Test	Observation	Conclusion
Dishwasher Test – Top rack, 5 cycles	No crack, crazing, chipping or color fading was observed after testing	PASS

Client Safety Requirement – Microwave Safe Test[#]

(Styles: B312-1613, B312-1621)

Test	Observation	Conclusion
Microwave Safe Test – Filled with half of the water or full of the water, heat the sample in high power(~1000 W) until boiling	No breakage, deform, melt.	PASS

Client Performance Requirement - Thermal Shock Test[#]

(Styles: B312-1613, B312-1621)

Test	Observation	Conclusion
Thermal Shock Test – Submerged in a cold water bath at a temperature of 32-40 °F (0-4°C). After reaching thermal equilibrium, removed from the cold water bath and filled with boiling water at 212°F (100°C).	No breakage, crack, or release pieces.	PASS

SPECIMEN DESCRIPTION:

Specimen No.	Specimen Description	Location
1	Dull black printed dull white ceramic	Interior of mug (Black/White, Large style)
2	Black printed dull white ceramic	Interior of mug (Black/White, Small style)
3	Matt white printed dull white ceramic	Interior of mug (White, Large style)
4	Bright white printed dull white ceramic	Interior of mug (White, Small style)
5	Multicolor printed dull white ceramic	Lip & Rim of mug (Black/White, Large)
6	Multicolor printed dull white ceramic	Lip & Rim of mug (Black/White, Small style)
7	Dull black/ white printed dull white ceramic	Whole of mug (Black/White, Large style)
8	Black/ white printed dull white ceramic	Whole of mug (Black/White, Small style)
9	Matt white printed dull white ceramic	Whole of mug (White, Large style)
10	Bright white printed dull white ceramic	Whole of mug (White, Small style)

SAMPLE PHOTO:



-End Report-