

## TEST REPORT

The report shall not be reproduced without written approval from Intertek  
The results relate only to the item tested.

Number: BKKH21000812

Applicant: THAI KK INDUSTRY CO., LTD.  
29/1 MOO 5, SOI THUMMASIRI, DEBARATANA ROAD,  
TUMBOL BANGSAOTONG, AMPHUR BANGSAOTONG,  
SAMUTPRAKARN 10570  
ATTN: K.PORNTAPIN/K.KANOKPORN

Issued Date: Feb 18, 2021

### Sample Submitted:

Quantity of sample:	30 pieces
Sample description:	White melamine bowl
Date sample received:	January 21, 2021

### Client Information:

Sample Name:	Melamine-Formaldehyde Molding Compound
Buyer Name:	All Customers
Country of Origin:	Thailand



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**Tests conducted:**

As requested by the applicant, for details please refer to attached page(s)  
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For and on behalf of :  
Intertek Testing Services (Thailand) Ltd.,  
Hardlines Laboratory



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Ladtaka Wongwibooporn  
Operation Manager  
Hardlines Department

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**Conclusion:**

<u>Tested sample</u>	<u>Client's requirement</u>	<u>Result</u>
Submitted sample set	European Commission Regulation No 10/2011 Annex II and (EU) No 2020/1245 and Regulation 1935/2004 on Overall migration Food simulant: - 10% (v/v) ethanol in aqueous solution - 3% (w/v) acetic acid in aqueous solution - 20% (v/v) ethanol in aqueous solution - Substitute D2	Pass Pass Pass Pass
	European Commission Regulation No 10/2011 Annex II and (EU) No 2020/1245 and Regulation No. 1935/2004 on Specific Migration of Melamine Food simulant: - 3% (w/v) acetic acid in aqueous solution	Pass
	European Commission Regulation No 10/2011 Annex II and (EU) No 2020/1245 and Regulation 1935/2004 on Specific Migration of Formaldehyde Food simulant: - 3% (w/v) acetic acid in aqueous solution	Pass
	European Commission Regulation No 10/2011 Annex II and (EU) No 2020/1245 and Regulation No. 1935/2004 on Specific Migration of Heavy Metal Content Food simulant: - 3% (w/v) acetic acid in aqueous solution	Pass
	Test for F.D.A. Regulation on Melamine Formaldehyde Resins -As per U.S. 21 CFR F.D.A. Regulation Part 177.1460 Clause (c)	Pass

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Test conducted:

1 Overall Migration Test

As per Commission Regulation (EU) No. 10/2011 and its amendment and EN 1186-1:2002, EN 1186-9:2002 and EN 1186-14:2002.

I. Condition of contact in actual use:  
Temperature: 70 °C, time : 2 hours

II. Test condition:

Simulant	Temperature (°C)	Time (hours)
(A), (B), (C)	70	2
Substitute D2		
- Iso octane	40	0.5
- 95% Ethanol	60	2

III. Test results:

Food simulant	Result (mg/dm <sup>2</sup> )	LOD (mg/dm <sup>2</sup> )	LOQ (mg/dm <sup>2</sup> )	Limit (mg/dm <sup>2</sup> )
(A)10% (v/v) ethanol in aqueous solution▲	ND	0.2	1	10
(B)3% (w/v) acetic acid in aqueous solution	<1	0.2	1	10
(C)20% (v/v) ethanol in aqueous solution	<1	0.2	1	10
Substitute D2▲				
Iso octane	2	0.2	1	10
95% Ethanol	4	0.2	1	10

Remark: mg/dm<sup>2</sup> = Milligram per square decimetre  
 < = Less than  
 ND = Not detected (Less than LOD)  
 LOD = Limit of detection  
 LOQ = Limit of quantitation  
 ▲ = Tested items are not included in the TISI Accreditation

As per client's request, the above condition and food simulant were used for the test.

Tested component: White melamine bowl

Compliance requirement:

Compliance with the overall migration limit shall be verified on the basis of the level of the overall migration found in the third test.

Testing period: January 21, 2021 to February 10, 2021

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To be continued



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Number: BKKH21000812

Test conducted:

2 Specific Migration of Melamine Test for Plastic Food Contacting Materials/Articles  
As per Commission Regulation (EU) No. 10/2011 and its amendment and EN13130-1 and DD CEN/TS 13130-27:2005

I. Condition of contact in actual use:  
Temperature: 70 °C, time : 2 hours

II. Test results:

Food simulant	Result (mg/kg)			LOD (mg/kg)	LOQ (mg/kg)	Limit (mg/kg)
	1 <sup>st</sup> cycle	2 <sup>nd</sup> cycle	3 <sup>rd</sup> cycle			
(B)3% (w/v) acetic acid in aqueous solution	<0.5	ND	ND	0.1	0.5	2.5

Remark: mg/kg = Milligram per kilogram  
< = Less than  
ND = Not detected (Less than LOD)  
LOD = Limit of detection  
LOQ = Limit of quantitation

As per client's request, the above condition and food simulant were used for the test.

Tested component: White melamine bowl

Compliance requirement:

Compliance of the material or article shall than be verified on the basis of the level of the migration found in the third test and on the basis of the stability of the material or article from the first to the third migration test. The stability of the material shall be considered insufficient if migration is observed above the level of detection in any of the three migration tests, and increases from the first migration test to the third migration test. In case of insufficient stability, compliance of the material shall not be established even in case the specific migration limit is not exceeded in any of the three tests.

Testing period: January 21, 2021 to February 10, 2021

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Number: BKKH21000812

Test conducted:

3 Specific Migration of Formaldehyde Test for Plastic Food Contacting Materials/Articles  
As per Commission Regulation (EU) No. 10/2011 and its amendment and EN13130-1 and  
DD CEN/TS 13130-23:2005

I. Condition of contact in actual use:  
Temperature: 70 °C, time : 2 hours

II. Test results:

Food simulant	Result (mg/kg)			LOD (mg/kg)	LOQ (mg/kg)	Limit (mg/kg)
	1 <sup>st</sup> cycle	2 <sup>nd</sup> cycle	3 <sup>rd</sup> cycle			
(B)3% (w/v) acetic acid in aqueous solution	3	2	1	0.1	1	15

Remark: mg/kg = Milligram per kilogram  
LOD = Limit of detection  
LOQ = Limit of quantitation

As per client's request, the above condition and food simulant were used for the test.

Tested component: White melamine bowl

Compliance requirement:

Compliance of the material or article shall be verified on the basis of the level of the migration found in the third test and on the basis of the stability of the material or article from the first to the third migration test. The stability of the material shall be considered insufficient if migration is observed above the level of detection in any of the three migration tests, and increases from the first migration test to the third migration test. In case of insufficient stability, compliance of the material shall not be established even in case the specific migration limit is not exceeded in any of the three tests.

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Number: BKKH21000812

Test conducted:

4 Specific Migration of Heavy Metal Test for Plastic Food Contacting Materials/Articles<sup>▲</sup>  
As per Commission Regulation (EU) No. 10/2011 and its amendment.

I. Condition of contact in actual use:  
Temperature: 70 °C, time : 2 hours

II. Test results:

Food simulant	Element	Result (mg/kg)			LOD (mg/kg)	LOQ (mg/kg)	Limit (mg/kg)
		1 <sup>st</sup> cycle	2 <sup>nd</sup> cycle	3 <sup>rd</sup> cycle			
3% (w/v) acetic acid in aqueous solution	Aluminium (Al)	ND	ND	ND	0.03	0.10	1
	Antimony (Sb)	ND	ND	ND	0.01	0.02	0.04
	Arsenic (As)	ND	ND	ND	0.01	0.02	ND (0.01)
	Barium (Ba)	ND	ND	ND	0.03	0.10	1
	Cadmium (Cd)	ND	ND	ND	0.002	0.02	ND (0.002)
	Chromium (Cr)	ND	ND	ND	0.01	0.02	ND (0.01)
	Cobalt (Co)	ND	ND	ND	0.01	0.02	0.05
	Copper (Cu)	ND	ND	ND	0.03	0.10	5
	Europium (Eu)	ND	ND	ND	0.01	0.02	0.05
	Gadolinium (Gd)	ND	ND	ND	0.01	0.02	0.05
	Iron (Fe)	<0.10	ND	ND	0.03	0.10	48
	Lanthanum (La)	ND	ND	ND	0.01	0.02	0.05
	Lead (Pb)	0.04	0.03	0.03	0.01	0.02	ND (0.01)
	Lithium (Li)	ND	ND	ND	0.03	0.10	0.6
	Manganese (Mn)	ND	ND	ND	0.03	0.10	0.6
	Mercury (Hg)	ND	ND	ND	0.01	0.02	ND (0.01)
	Nickel (Ni)	ND	ND	ND	0.01	0.02	0.02
	Terbium (Tb)	ND	ND	ND	0.01	0.02	0.05
	Zinc (Zn)	<0.10	ND	ND	0.03	0.10	5
	Sum of Europium, Gadolinium, Lanthanum and Terbium	ND	ND	ND	0.01	0.02	0.05

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To be continued

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Test conducted:

Remark: mg/kg = Milligram per kilogram  
< = Less than  
LOD = Limit of detection  
LOQ = Limit of quantitation  
▲ = Tested items are not included in the TISI Accreditation

As per client's request, the above condition and food simulant were used for the test.

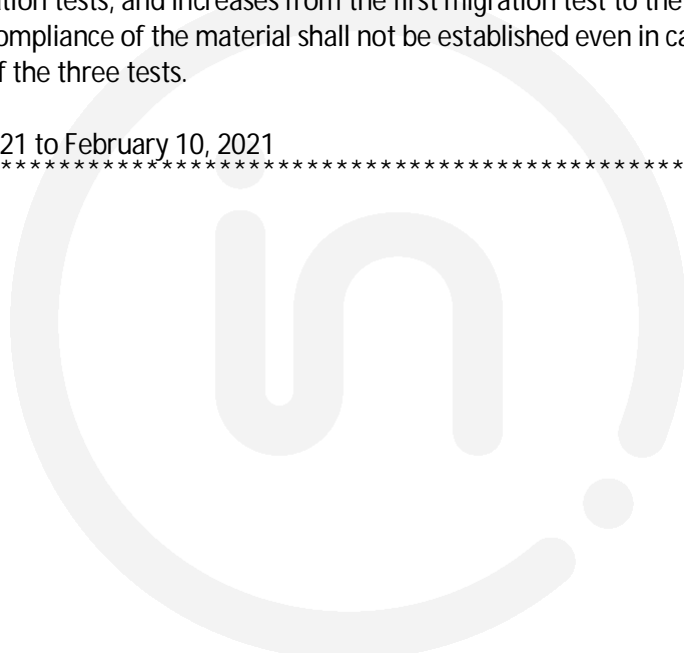
Tested component: White melamine bowl

Compliance requirement\*:

Compliance of the material or article shall be verified on the basis of the level of the migration found in the third test and on the basis of the stability of the material or article from the first to the third migration test. The stability of the material shall be considered insufficient if migration is observed above the level of detection in any of the three migration tests, and increases from the first migration test to the third migration test. In case of insufficient stability, compliance of the material shall not be established even in case the specific migration limit is not exceeded in any of the three tests.

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Number: BKKH21000812

Test conducted:

5 Test For F.D.A. Regulation on Melamine – Formaldehyde resins<sup>(S)</sup>▲

As per the U.S. 21 CFR food and drug administration part 177.1460 clause (c)

I. Condition of use:  
Room Temperature Filled and Stored (No Thermal Treatment in The Container)

II. Test Results:

<u>Test Item</u>	<u>Result</u> mg/in <sup>2</sup>	<u>Limit</u> mg/in <sup>2</sup>
(A) Chloroform soluble extractive in Water extractant	0.02	0.5
(B) Chloroform soluble extractive in Heptane extractant	0.11	0.5
(C) Chloroform soluble extractive in 8% Alcohol extractant	0.02	0.5

Remark: <sup>(S)</sup> = Test item has been tested by subcontractor approved by Intertek.  
▲ = Tested items are not included in the TISI Accreditation

Tested component: White melamine bowl

Testing period: January 21, 2021 to February 18, 2021

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