

SGS INSTITUT FRESENIUS GmbH · Postfach 1261 · 65220 Taunusstein

MetPro Verpackungs-Service GmbH
 Mr. Marc Rapp
 Robert-Bosch-Straße 17
D-71707 Schwieberdingen

Order no.:3029343

Client:10124891

Zamien Sarkardeh / st
 t +49 6128 744 - 385
 f +49 6128 744 - 534
 Zamien.sarkardeh@sgs.com

Consumer Testing Services
 Non Food

SGS INSTITUT FRESENIUS GmbH
 Im Maisel 14
 D-65232 Taunusstein

Taunusstein, July 10, 2014

Your order : Testing according to MetPro BioCor 311 HP
 Your reference : Marcel Graul
 Order date : 06/JUN/2014
 Sample no. : 140650033
 Test period : 10/JUN/2014 – 09/JUL/2014

Test report no.: 3029343-01_rev01
Testing according to LFGB

Dear Mr. Rapp,

Following your request we have tested the sample received on June 10, 2014 according to the „Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuches (LFGB) and Regulation (EC) No. 1935/2004.

Sample no.	Sample designation
140650033	BioCor 311 HP (VCI-Folie)

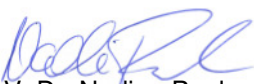
Detailed results are given on the following page(s).

Assessment:

The sample meets the requirements of LFGB and Regulation (EC) No. 1935/2004 in the tested items.

Yours sincerely,

SGS INSTITUT FRESENIUS GmbH


 i. V. Dr. Nadine Paul
 (Team Leader)


 i. A. Zamien Sarkardeh
 (Project Manager)

Order no. : 3029343
Test report no. : 3029343-01_rev01
Sample no. : 140650033
Client : MetPro Verpackungs-Service GmbH

11/JUL/2014

page 2 of 6

Photo documentation:



Order no. : 3029343
 Test report no. : 3029343-01_rev01
 Sample no. : 140650033
 Client : MetPro Verpackungs-Service GmbH

11/JUL/2014

page 3 of 6

Test results:

1. Migration

The sample was brought in contact with the respective simulant and stored. The ratio of surface to volume is 6 dm²/l.

Water 10 days at 40 °C
 3 % acetic acid 10 days at 40 °C
 95 % ethanol 10 days at 40 °C
 Isooctane 2 days at 40 °C

1.1 Sensory test

The migrates have been sensory tested according to DIN 10955 for off-odour and off-taste in comparison to a blank. This is a similar treated food simulant without sample contact.

Food simulant	Average grade*	
	odour	taste
Water	1.0	1.5

* rounded at 0.5 grades

Key: 0 = no change
 1 = very slight off odour/ off-taste
 2 = slight off-odour / off-taste
 3 = distinct off-odour / off-taste
 4 = strong off-odour / off-taste

With an assessment from 0 to 2.5 there is no, respectively a tolerable organoleptic impact existent in terms of Regulation (EC) No. 1935/2004.

Order no. : 3029343
 Test report no. : 3029343-01_rev01
 Sample no. : 140650033
 Client : MetPro Verpackungs-Service GmbH

11/JUL/2014

page 4 of 6

1.2 Overall migration

The migrates (point 1) have been dried at 105°C and the overall migration was determined as dry residue according to EN 1186.

test liquid	Result [mg/dm ²]	Requirement* [mg/dm ²]
3 % acetic acid	< 1	max. 10
95% ethanol	< 1	max. 10
isooctane	2	max. 10

* according to Regulation (EU) No. 10/2011 and amendments

analytical tolerance of the method (§ 64 LFGB B 80.30-3 (EG)):
 2 mg/dm² for aqueous simulants
 3 mg/dm² for olive oil and fat substitutes

1.3 Specific migration of zinc

The determination was carried out on the migrate after extraction with ICP-OES.

	Result [mg/kg food simulant]	Requirement* [mg/kg food simulant]
95 % ethanol	<1	max. 25

* according to Regulation (EU) No. 10/2011 and amendments

1.4 Specific migration of Octadecyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate

The determination was carried out on the migrate after extraction by GC-MS.

	Result [mg/kg food simulant]	Requirement* [mg/kg food simulant]
95 % ethanol	< 0.5	max. 6

* according to Regulation (EU) No. 10/2011 and amendments

1.5 Specific migration of substance A

The determination was carried out on the migrate.

	Result
substance A	meets the requirement

* according to Regulation (EU) No. 10/2011 and amendments

Order no. : 3029343
 Test report no. : 3029343-01_rev01
 Sample no. : 140650033
 Client : MetPro Verpackungs-Service GmbH

11/JUL/2014

page 5 of 6

1.6 Specific migration of 2,6-Di-tert-butyl-kresol (BHT)

The determination was carried out on the migrate by GC-MS after extraction.

	Result [mg/kg food simulant]	Requirement* [mg/kg food simulant]
95 % ethanol	< 0.1	max. 3

* according to Regulation (EU) No. 10/2011 and amendments

1.7 Specific migration of acrylates and methacrylates

The determination was carried out on the migrate by GC-FID.

	Result [mg/kg food simulant]	Requirement* [mg/kg food simulant]
95 % ethanol		
acrylates / methacrylates**	< 5	max. 6

* according to Regulation (EU) No. 10/2011 and amendments

** sum of: methacrylate, acrylic acid methyl ester, acrylic acid ethyl ester, methacrylic acid methyl ester, acrylic acid isobutyl ester, acrylic acid n-butyl ester, methacrylic acid isobutyl ester, methacrylic acid butyl ester, acrylic acid ethylhexyl ester

1.8 Specific migration of N,N-Bis-(2-hydroxyethyl)-alkyl(C₈-C₁₈)amine

The determination was carried out on the migrate with HPLC-ELSD and external standardisation.

	Result [mg/kg food simulant]	Requirement* [mg/kg food simulant]
95 % ethanol	< 1	max. 1.2

* according to Regulation (EU) No. 10/2011 and amendments

1.9 Spezifische Migration von 1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)-1,3,5-triazin-2,4,6 (1H, 3H, 5H)trion

The determination was carried out on the migrate with GC-MS after extraction

	Result [mg/kg food simulant]	Requirement* [mg/kg food simulant]
95 % ethanol	< 0.01	max. 5

* according to Regulation (EU) No. 10/2011 and amendments

Order no. : 3029343
 Test report no. : 3029343-01_rev01
 Sample no. : 140650033
 Client : MetPro Verpackungs-Service GmbH

11/JUL/2014

page 6 of 6


1.10 Specific migration of Monoethyl-3,5-di-tert-butyl-4-hydroxy-benzyl-phosphonate, calcium salt

The determination was carried out on the migrate after extraction by LC-MS/MS.

	Result [mg/kg food simulant]	Requirement* [mg/kg food simulant]
95 % Ethanol	< 0.1	max. 6

* according to Regulation (EU) No. 10/2011 (and amendments)

SGS INSTITUT FRESENIUS GmbH


 i. V. Dr. Nadine Paul
 (Team Leader)


 i. A. Zamien Sarkardeh
 (Project Manager)