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PTT MCC Biochem Company Limited 555/2 Energy Complex Building B,14t
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 Consumer Testing Services
 Non Food

Taunusstein, 30/10/2015

Test-report no. 2713556-01
Test-report version < 1 >

Original Sample ID	Sample Description	Sample Receipt Date
150906270	FZ 71 PM 50µm	02/10/2015

General Information

SGS-Client's ID	:	10117102
SGS-Customer-Order	:	3519547
Ordering date	:	30/09/2015
Testing period	:	06/10/2015 – 20/10/2015
Order No.	:	-
Testing scope	:	Test according to client's requirements

Assessment

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

For more information please refer to the next pages.
 The performed analyses were performed acc. to client's request and serve as random assurance of product quality regarding the compliance with legally binding limits as well as arranged and commercially available benchmarks. The analysis is not necessarily performed on homogeneous material level and does not claim completeness with the selected subsamples.

SGS INSTITUT FRESENIUS GmbH



i. A. Zamien Sarkardeh
 (Project Manager)



i. A. Claas Isemer
 (Project Manager)

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page 1 / 6

Test report no. 2713556-01

PTT MCC Biochem Company Limited 555/2 Energy Complex
 Vibhavadi Rangsit Road
 TH-10900 Chatuchak, Bangkok

SGS Order No.: 3519547
 Date: 30/10/2015
 Page 2/6

Summary of results

Test	Result
Overall migration	Pass
Specific migration of metals according to Regulation (EU) No 10/2011	Pass

Note:

Conclusions on pass/fail are based on the test result from the actual sampling of the received sample(s).
 Conclusions are based on the relevant requirements; measurement uncertainties are not taken into account. Only results above the relevant detection limit are taken into account for the calculation of sums.
 Test was conducted on composite of random parts of the item as per client's request and the test result is the overall result.
 The composite sampling method is based on the client's special request and could be a modification from the testing standard.
 For 2-composite mix with results exceeding one half of the relevant requirements or 3-composite mix with results exceeding one third of the relevant requirements, the composite sample may have the possibility of one or more components that can lead to a failure result, it is recommended to test on individual basis.

Test report no. 2713556-01

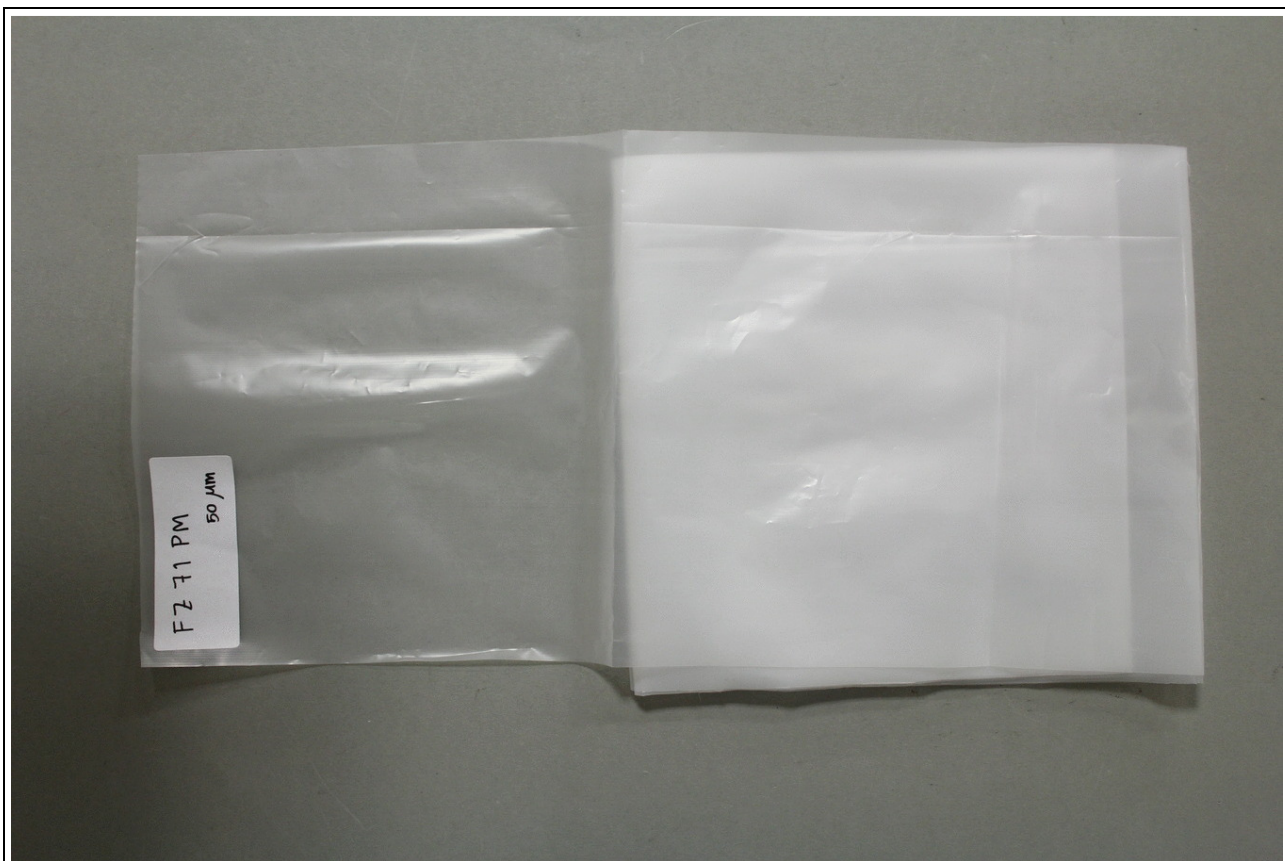
PTT MCC Biochem Company Limited 555/2 Energy Complex
Vibhavadi Rangsit Road
TH-10900 Chatuchak, Bangkok

SGS Order No.: 3519547

Date: 30/10/2015

Page 3/6

Photo documentation



List of sample parts

Comp. no	Component-ID	Sample-Description			Original Sample ID
1	-	foil			150906270

Test report no. 2713556-01

PTT MCC Biochem Company Limited 555/2 Energy Complex
 Vibhavadi Rangsit Road
 TH-10900 Chatuchak, Bangkok

SGS Order No.: 3519547
 Date: 30/10/2015
 Page 4/6

Analytical results

overall migration

Test Method
 DIN EN 1186

simulant 10% ethanol
 duration 4 hours
 temperature 100 +/- 2 °C
 approach 6 dm²/L

	<u>Unit</u>	<u>Result</u>
<u>Subsample(s)</u>		
overall migration	mg/dm ²	1st contact < 1
Conclusion		pass

simulant 3% acetic acid
 duration 4 hours
 temperature 100 +/- 2 °C
 approach 6 dm²/L

	<u>Unit</u>	<u>Result</u>
<u>Subsample(s)</u>		1
overall migration	mg/dm ²	1st contact < 1
Conclusion		pass

simulant 50% ethanol
 duration 4.5 hours
 temperature 60 +/- 2 °C
 approach 6 dm²/L

	<u>Unit</u>	<u>Result</u>
<u>Subsample(s)</u>		1
overall migration	mg/dm ²	1st contact < 1
Conclusion		pass

simulant olive oil
 duration 4 hours
 temperature 100 +/- 2 °C
 approach 6 dm²/L

	<u>Unit</u>	<u>Result</u>
<u>Subsample(s)</u>		1
overall migration	mg/dm ²	1st contact < 1
Conclusion		pass

Test report no. 2713556-01

PTT MCC Biochem Company Limited 555/2 Energy Complex
 Vibhavadi Rangsit Road
 TH-10900 Chatuchak, Bangkok

SGS Order No.: 3519547
 Date: 30/10/2015
 Page 5/6

Requirement: max. 10 mg/dm² (Regulation (EU) No 10/2011)

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

Specific migration of metals according to Regulation (EU) No 10/2011

Test Method

DIN-EN-ISO 11885 , after migration DIN 13130-1

simulant	10% ethanol
duration	4 hours
temperature	100 +/- 2 °C
approach	6 dm ² /L

<u>Subsample(s)</u>	<u>Unit</u>	<u>Result</u>
		1
		1st contact
Barium	mg/kg food simulant	< 0.1
Cobalt	mg/kg food simulant	< 0.01
Copper	mg/kg food simulant	< 0.1
Iron	mg/kg food simulant	< 1
Lithium	mg/kg food simulant	< 0.1
Manganese	mg/kg food simulant	< 0.1
Zinc	mg/kg food simulant	< 1
Conclusion		pass

simulant	3% acetic acid
duration	4 hours
temperature	100 +/- 2 °C
approach	6 dm ² /L

<u>Subsample(s)</u>	<u>Unit</u>	<u>Result</u>
		1
		1st contact
Barium	mg/kg food simulant	< 0.1
Cobalt	mg/kg food simulant	< 0.01
Copper	mg/kg food simulant	< 0.1
Iron	mg/kg food simulant	< 1
Lithium	mg/kg food simulant	< 0.1
Manganese	mg/kg food simulant	< 0.1
Zinc	mg/kg food simulant	< 1
Conclusion		pass

Test report no. 2713556-01

PTT MCC Biochem Company Limited 555/2 Energy Complex
 Vibhavadi Rangsit Road
 TH-10900 Chatuchak, Bangkok

SGS Order No.: 3519547
 Date: 30/10/2015
 Page 6/6

simulant 50% ethanol
 duration 4.5 hours
 temperature 60 +/- 2°C
 approach 6 dm²/L

<u>Subsample(s)</u>	<u>Unit</u>	<u>Result</u> 1
		1st contact
Barium	mg/kg food simulant	< 0.1
Cobalt	mg/kg food simulant	< 0.01
Copper	mg/kg food simulant	< 0.1
Iron	mg/kg food simulant	< 1
Lithium	mg/kg food simulant	< 0.1
Manganese	mg/kg food simulant	< 0.1
Zinc	mg/kg food simulant	< 1
Conclusion		pass

simulant oil
 duration 4 hours
 temperature 100 +/- 2°C
 approach 6 dm²/L

<u>Subsample(s)</u>	<u>Unit</u>	<u>Result</u> 1
		1st contact
Barium	mg/kg food simulant	< 0.1
Cobalt	mg/kg food simulant	< 0.01
Copper	mg/kg food simulant	< 0.1
Iron	mg/kg food simulant	< 1
Lithium	mg/kg food simulant	< 0.1
Manganese	mg/kg food simulant	< 0.1
Zinc	mg/kg food simulant	< 1
Conclusion		pass

Requirement:	Regulation (EU) No 10/2011	Barium:	max 1 mg/kg food simulant
		Cobalt:	max. 0.05 mg/kg food simulant
		Copper:	max. 5 mg/kg food simulant
		Iron:	max. 48 mg/kg food simulant
		Lithium:	max. 0.6 mg/kg food simulant
		Manganese:	max .0.6 mg/kg food simulant
		Zinc:	max. 25 mg/kg food simulant

*** End of test report ***