

SGS INSTITUT FRESENIUS GmbH · Postfach 1261 · 65220 Taunusstein

SAMKWANG GLASS CO., LTD.
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KOREA

Order No.: 3198990

Client: 10008109

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Consumer Testing Services
Non Food

SGS INSTITUT FRESENIUS GmbH
Im Maisel 14
D-65232 Taunusstein

Taunusstein, December 16, 2014

Your order : Testing of CHEF TOPF Granoble coating Pa
Your reference : AYAA14-52886
Order date : 14/NOV/2014
Sample No. : 141240351
Test period : 25/NOV/2014 – 10/DEC/2014

Test report no.: 3198990-01_rev01
Testing according to LFGB

Dear Sirs,

Following your request we have tested the sample received on November 19, 2014 according to the „Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch“ (LFGB) and Regulation (EC) No 1935/2004 for the requested items.

Sample No.	Sample designation
141240351	Chef TOPF Granoble coating pan

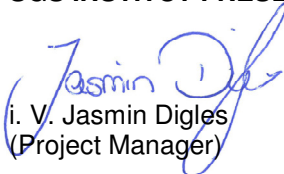
Detailed results are given on the following page(s).

Assessment:

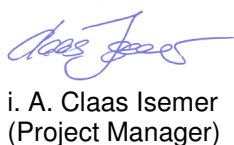
The sample meets the requirements of LFGB and Regulation (EC) No. 1935/2004 in the tested items.

Yours sincerely,

SGS INSTITUT FRESENIUS GmbH



i. V. Jasmin Digles
(Project Manager)



i. A. Claas Isemer
(Project Manager)

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Photo documentation:



Test results:

1. Migration

The sample was brought in contact with the respective simulant and stored. The ratio of surface to volume is approximately 13 dm²/l.

3 % acetic acid	1 hour at 95 °C
95 % ethanol	6 hours at 60 °C
Isooctane	4 hours at 60 °C

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1.1 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 (double determination).

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

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

1.2 Specific migration of total fluorine

The determination was carried out in the 3 % acetic acid migrate. Fluorine was detected by ion selective electrode.

3 % acetic acid	Result [mg/dm ²]	Requirement* [mg/dm ²]
Total fluorine		
1. contact	< 0.01	max. 0.05
3. contact	< 0.01	max. 0.05

* according to BfR-Recommendation LI

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1.3. Specific migration of PFOA/PFOS

The determination was carried out in the 3 % acetic acid and 95 % ethanol migrates. PFOA/PFOS were detected by LC-MS/MS.

3 % acetic acid	Result [mg/dm ²]	Requirement* [mg/dm ²]
Perfluorooctanoic acid (PFOA)		
1. contact	< 0.005	< 0.005
3. contact	< 0.005	< 0.005
Perfluorooctane sulfonic acid (PFOS)		
1. contact	< 0.005	< 0.005
3. contact	< 0.005	< 0.005

95 % ethanol	Result [mg/dm ²]	Requirement* [mg/dm ²]
Perfluorooctanoic acid (PFOA)		
1. contact	< 0.005	< 0.005
3. contact	< 0.005	< 0.005
Perfluorooctane sulfonic acid (PFOS)		
1. contact	< 0.005	< 0.005
3. contact	< 0.005	< 0.005

* According to BfR-Recommendation LI

1.4 Specific migration of metals

The determination was carried out in the 3 % acetic acid migrate. Chromium, lithium and aluminium were detected by ICP-OES.

3 % acetic acid	Result [mg/dm ²]	Requirement* [mg/dm ²]
Chromium		
1. contact	< 0.005	max. 0.02
3. contact	< 0.005	max. 0.02
Lithium		
1. contact	< 0.005	max. 0.5
3. contact	< 0.005	max. 0.5

* according to BfR-Recommendation LI

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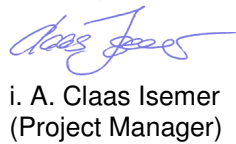
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3 % acetic acid	Result [mg/l]	Requirement [mg/l]
Aluminium		
1. contact	1.2	-
3. contact	1.5	max. 5**

** According to CoE Resolution CM/RES(2013)9 and „Technical Guide on Metals and alloys used in food contact materials and articles“

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