

Test Report 1422-15

for

**INEQS
INDUSTRY EQUIPMENT SUPPLY**
Am weissen Stein 19
55545 Bad Kreuznach
Germany

1. Test specimen:

Sample 1: 6 identical plates labelled as "Blank test"
Sample 2: 6 identical plates labelled as "Flux Topcoat / Overprint (WF)"
Sample 3: 6 identical plates labelled as "Without Flux Topcoat / Overprint (NF)"

2. Date of arrival:

02/12/2015

3. Test realization:

02/12/ - 16/12/2015

4. Testing method:

Determination of leachable lead and cadmium from foodware with glazed ceramic surfaces according ASTM C 738 (flatware testing). Analysis of the solutions with ICP-OES based on DIN EN ISO 11885 (●).

5. Sampling/Sample preparation:

Sampling and delivery to the FGK was under responsibility of the customer.
At the FGK: After cleaning all samples were stored within acetic acid (4 vol. %) over a period of 24 hours.

6. Results:

Testing Parameter	„ Blank test ”						Mean Value
	N° 1	N° 2	N° 3	N° 4	N° 5	N° 6	
Cadmium [mg/dm ²]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Lead [mg/dm ²]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Volume* [L]	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Area** [dm ²]	3.46	3.46	3.46	3.46	3.46	3.46	3.46

Testing Parameter	„ Flux Topcoat / Overprint (WF) ”						Mean Value
	N° 1	N° 2	N° 3	N° 4	N° 5	N° 6	
Cadmium [mg/dm ²]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Lead [mg/dm ²]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Volume* [L]	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Area** [dm ²]	3.46	3.46	3.46	3.46	3.46	3.46	3.46

Testing Parameter	„ Without Flux Topcoat / Overprint (NF) ”						Mean Value
	N° 1	N° 2	N° 3	N° 4	N° 5	N° 6	
Cadmium [mg/dm ²]	0.0013	< 0.0010	0.0010	0.0010	0.0014	< 0.0010	0.0011
Lead [mg/dm ²]	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Volume* [L]	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Area** [dm ²]	3.46	3.46	3.46	3.46	3.46	3.46	3.46

*: storage volume

**: moistened area

Limits for ceramic foodware according to the US – FDA guidelines:

Ceramic foodware	Lead [mg/L] = [ppm]	Cadmium [mg/L] = [ppm]
Flatware	3.0	0.5

Limits for ceramic foodware according to the Californian guidelines („Proposition 65“):

Ceramic foodware	Lead [mg/L] = [ppm]	Cadmium [mg/L] = [ppm]
Flatware	0.226	1.808 (1.853)***

***: Advisory limits based upon OEHHA's (Sept 2011) Safe Harbour Level for cadmium at 4.1 µg/day (oral)" from 'CERAM Special Publication 149: Toxic Metal Release from Ceramic and Glass Tableware in Contact with Food - A Guide to Worldwide Regulations', March/Corrigendum May 2012'

The articles tested are in compliance with the limits of the US-FDA and 'Proposition 65', as far as available to the FGK.

7. Testing uncertainties:

ICP-Analysis

Due to the acetic acid matrix and the low element concentrations the relative single measurement uncertainties are up to 15 %.

8. Epilogue:

All investigations were done in view of the latest scientific-technical trends and to the best of one's knowledge and belief. The testing results exclusively refer to the test specimen. In order to avoid misinterpretations the present report may only be printed, copied and transmitted in its completeness. To copy extracts needs a written permission by the FGK.

16.12.2015

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