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Dresden, 04/12/2023
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Test Report Order no. 2523603

Client: Bona Sweden AB
Box 210 74
200 21 Malmö
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Order: Determination of the migration behaviour according to DIN EN 71-3
(2021-06) in a lacquer sample

Contractor: EPH – Laboratory chemical testing

Engineer in charge: Dr. Christiane Swaboda



Dipl.-Ing. M. Broege
Head of Laboratory Chemical Testing

The test report contains 3 pages. Any duplication of extracts requires the written permission of EPH. The test results refer exclusively to the material tested.

1 Task

The accredited Entwicklungs- und Prueflabor Holztechnologie GmbH was instructed by Bona Sweden AB to determine the migration behaviour according to DIN EN 71-3 (2021-06) in a lacquer sample

NOTE: All numerical values within this document are given with a comma as decimal.

2 Sample material

The client handed over the following samples:

Table 1: sampling information

Nr.	Sample name	Sample description	Sample amount
1	BONA Mega EVO	aqueous wood coating	50 ml liquid sample

Sample receipt in the EPH: 27/10/2023

3 Performed tests

Table 2: performed tests

Pos.	Performed tests	Testing period
1	Determination of heavy metals according to DIN EN 71-3: 2021-06	27/11/2023 – 29/11/2023

3.1 Determination of heavy metals according to DIN EN 71-3: 2021-06

Sample quantities: ca. 0.5 g of liquid sample, air-dried on glass plate
 Solvent: 25 mL 0.07 n hydrochloric acid
 Method: Elution over 2 h in a water bath at 37 °C
 Quantification: with ICP-OES
 Determination: double determination

The following elements were to be determined according to DIN EN 71-3:2021-06:

Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Boron (B), Cadmium (Cd), Cobalt (Co), Chrome (Cr), Copper (Cu), Mercury (Hg), Manganese (Mn), Nickel (Ni), Lead (Pb), Selenium (Se), Tin (Sn), Strontium (Sr), Zinc (Zn)

Table 3: Limit of quantification of different elements

Element	Al	As	B	Ba	Cd	Co	Cr ges.	Cr VI	Cu	Hg
LOQ [mg/kg]	3	1,5	3	0,1	0,05	0,05	0,02	0,005	0,1	0,05

LOQ Limit of quantification [mg/kg]

Table 4: Limit of quantification of different elements

Element	Mn	Ni	Pb	Sb	Se	Sn	Sr	Zn
LOQ [mg/kg]	0,05	0,25	1,5	1,5	1,5	0,05	0,05	1,5

LOQ Limit of quantification [mg/kg]

4 Results

Table 5: Result overview of the tested material

Elements	Limit Category III	Limit of quantification	Measured values	Limit value complied with: Category III*
	[mg/kg]	[mg/kg]	[mg/kg]	
Sample			P1	
Al	28130	3	25	✓
As	47	1,5	<LOQ	✓
B	15000	3	27	✓
Ba	18750	0,1	3	✓
Cd	17	0,05	<LOQ	✓
Co	130	0,05	<LOQ	✓
Chrom, total		0,01	<LOQ	
Chrom (III) ¹	460		<LOQ	✓
Chrom(VI) ²	0,053		n.d.	✓
Cu	7700	0,1	1	✓
Hg	94	0,05	<LOQ	✓
Mn	15000	0,05	2	✓
Ni	930	0,25	<LOQ	✓
Pb	23	1,5	4	✓
Sb	560	1,5	<LOQ	✓
Se	460	1,5	<LOQ	✓
Sn	180000	0,05	7	✓
Organotin ³	12		n.d.	✓
Sr	56000	0,05	2	✓
Zn	46000	1,5	2	✓

n.d. not determined

LOQ Limit of quantification

¹ The chromium (III) content corresponds to the total chromium content minus the chromium (VI) content² Chromium (VI) is only determined for samples in which the total chromium content has exceeded the limit value for chromium (VI).³ The organotin content was only determined for samples in which the tin content exceeded the limit value for organotin.

5 Evaluation of results*

All tested products comply with the requirements for the migration of heavy metals and elements according to DIN EN 71-3 (2021-06) category III.



Dr. rer. nat. Ch. Swaboda
Chemist in Charge

* Statements on conformity assessment/classification were made based on the measurement results obtained. Measurement uncertainties were not included in the assessment (ILAC G8 03/2009 "Guidelines on the Reporting of Compliance with Specification" Section 2.