

Entwicklungs- und Prueflabor Holztechnologie GmbH · Zellescher Weg 24 · 01217 Dresden · Germany

Hemel  
Emprenye Sanayi ve Ticaret A.S.  
Mr. Mert Cakir  
Istanbul Deri Organize Sanayi Bölgesi  
Vakum Cad. No:25  
B-1 Özel Parsel, Aydinli-Orhanli Mevkii, Tuzla  
TR - 34957 Istanbul  
Turkey

Entwicklungs- und Prueflabor  
Holztechnologie GmbH  
Zellescher Weg 24  
01217 Dresden · Germany

Phone: +49 351 4662 0  
Fax: +49 351 4662 211  
info@eph-dresden.de  
www.eph-dresden.de

E-Mail: mert.cakir@hemel.com.tr

Dresden, 2021-01-25  
50- sw

## Test Report Order no. 2520589-7

**Client:** Hemel  
Emprenye Sanayi ve Ticaret A.S.  
Istanbul Deri Organize Sanayi Bölgesi  
Vakum Cad. No:25  
B-1 Özel Parsel, Aydinli-Orhanli Mevkii, Tuzla  
34957 Istanbul  
Turkey

**Date of order:** 2021-01-12

**Order:** Determination of the migration behavior of heavy metals according to DIN EN 71-3: 2019-08 (category III, table 1) in a liquid colour sample "Prime Solvent Vernik"

**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, even in part, requires written permission of EPH.

## 1 Assignment

Determination of the migration behaviour of heavy metals according to DIN EN 71-3: 2019-08 (Category III according to Table 1) in 1 liquid sample

## 2 Sample material

The client handed over the following sample:

Table 1: Sampling information

Prime Solvent Vernik
----------------------

Sample receipt in the EPH: 04 January 2021

## 3 Performed tests

Table 2: Performed tests

Pos.	Performed tests	Testing period
1	Determination of heavy metals according to DIN EN 71-3: 2019-08	2021-01-015

Sample quantity: ca. 0.5 g  
 Solvent: 25 mL 0.07 n hydrochloric acid  
 Method: Elution over 2h 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 71-3:2019-08:

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 total	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

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]

Table 4: Result overview of the tested material

Element	Limit Value Category III	Measured Values [mg/kg]	Evaluation according to DIN EN 71-3: 2019-08 comply with limit value*
Sample	[mg/kg]		
Al	<b>70000</b>	< LOQ	Yes
As	<b>47</b>	< LOQ	Yes
B	<b>15000</b>	< LOQ	Yes
Ba	<b>18750</b>	< LOQ	Yes
Cd	<b>17</b>	< LOQ	Yes
Co	<b>130</b>	31.7	Yes
Cr total	<b>460</b>	< LOQ	Yes
Cr (III) <sup>1</sup>	<b>460</b>	< LOQ	Yes
Cr (VI) <sup>2</sup>	<b>0.053</b>	n.d.	Yes
Cu	<b>7700</b>	< LOQ	Yes
Hg	<b>94</b>	< LOQ	Yes
Mn	<b>15000</b>	0.1	Yes
Ni	<b>930</b>	< LOQ	Yes
Pb	<b>23</b>	6.2	Yes
Sb	<b>560</b>	< LOQ	Yes
Se	<b>460</b>	< LOQ	Yes
Sn	<b>180000</b>	< LOQ	Yes
Organotin <sup>3</sup>	<b>12</b>	n.d.	Yes
Sr	<b>56000</b>	< LOQ	Yes
Zn	<b>46000</b>	< LOQ	Yes

n.d. not determined

<sup>1</sup> The chromium (III) content corresponds to the total chromium content minus the chromium (VI) content

<sup>2</sup> Chromium (VI) was only determined for samples where the total chromium content exceeded the limit value for chromium (VI).

<sup>3</sup> The organotin content was only determined for samples in which the tin content exceeded the limit value for organotin.

\* 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).

The sample completely meets the limit values for the migration of heavy metals.



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