

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, 2023-04-26
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Test Report Order no. 2523080/2

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
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Order: Determination of the migration behavior of heavy metals according to DIN EN 71-3: 2021-06 (category III, table 1) in 1 liquid sample
Prime Deck ve Bahçe Mobilyalari İçin Hibrit Yağ

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 Assignment

Determination of the migration behaviour of heavy metals according to DIN EN 71-3: 2021-06 (Category III according to Table 1) in 1 liquid sample

2 Sample material

The client handed over the following sample:

Table 1: sampling information

P2	Prime Deck ve Bahçe Mobilyalari İçin Hibrit Yağ
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Sample receipt in the EPH: 15/02/2023

Sample amount: 100 ml

3 Performed tests

Tabelle 2 performed tests

Pos.	Performed tests	Testing period
1	Determination of heavy metals according to DIN EN 71-3: 2021-06	2023-03-24
2	Determination of Chrome VI according to DIN EN 71-3: 2021-06	2023-04-06/11

Pos 2: The investigation was carried out by the accredited test institute Hansecontrol GmbH

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

Sample quantities: ca. 0.5 g
 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

Element	LOQ	Limit Value Category III	Measured Values
	[mg/kg]	[mg/kg]	[mg/kg]
Al	3	28130	< LOQ
As	1.5	47	< LOQ
B	3	15000	< LOQ
Ba	0.1	18750	100.1
Cd	0.05	17	< LOQ
Co	0.05	130	< LOQ
Cr total	0.02		0.1
Cr (III) ¹	0.02	460	0.1
Cr (VI) ²	0.005	0.053	< LOQ
Cu	0.1	7700	< LOQ
Hg	0.05	94	< LOQ
Mn	0.05	15000	< LOQ
Ni	0.25	930	< LOQ
Pb	1.5	23	< LOQ
Sb	1.5	560	< LOQ
Se	1.5	460	< LOQ
Sn	0.05	180000	0.1
Organotin ³	1	12	n.d.
Sr	0.05	56000	7.4
Zn	1.5	46000	< LOQ

n.d. not determined

¹ The chromium (III) content corresponds to the total chromium content minus the chromium (VI) content

² 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*

The tested product meets 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.