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Dresden, 22 December 2023

Test Report
2117020/2023/01/PCP

Client: Rheinspan GmbH & Co. KG
Konrad-Nolte-Straße 40
D-76726 Germersheim

Order No.: SPL-Q9-Q2-20 / 2117020 (old 259013)

Order: Determination of PCP and lindane from a mixed sample

Contractor: EPH – Laboratory Chemical Testing

Engineer in charge: Dr. Martin Fischer



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. These test results are exclusively related to the tested material.

1 Task and Sample description

On 01st August 2023, the Entwicklungs- und Prüflabor Holztechnologie GmbH (EPH) received 2 samples that had to be tested for lindane and PCP as a mixed sample.

tab. 1 sample overview; indications of size are given in [mm]

Variant	EPH-Code	amount of test pieces	length	width	thickness	charge	type	production date
4	K-PB-4-R3/1..3	3	450	450	10	3002905	Spanplatte EcoMaxx	24/07/2023
5	K-PB-5-R3/1..3	3	450	450	32	24000640320	Spanplatte EcoMaxx	24/07/2023

2 Sample preparation and analysis

Method:

- CEN TR 14823:2004: Durability of wood and wood products - Quantitative determination of pentachlorophenol in wood - Gas chromatographic method
- IHD-W-409:2017-11; Determination of chlorinated phenols in wood and other materials - Toluene extraction
- ISO 16979:2003; Wood-based panels — Determination of moisture content
- EN 71-10:2006-03; Safety of toys – Part 10: Organic chemical compounds – Sample preparation and extraction
- EN 71-11:2006-01; Safety of toys – Part 11: Organic chemical compounds – Methods of analysis

Stripes of 2 cm width were cut from each sample which were milled to a particle size of less than 1 mm and mixed for the respective sample. 2 g were weighed exactly, 40 mL toluene and 2 mL 1 M sulfuric acid were added, followed by a 30 min sonication and further shaking for 20 hours. A part of each solution was filtrated, derivatised with acetic anhydride and the PCP was measured with a gas chromatograph using ECD-detection (GC-ECD). Lindane was measured with GC-ECD in another part of each extract. External calibration was performed with calibration standards from commercial sources. Determination limits (LOQ) for PCP and Lindane (2 g of sample): 0.05 mg/kg

Test date: 17/08/2023

3 Results and evaluation¹

Tab. 2 PCP and Lindane in 2 samples, unit of measurement: [mg/kg]

Variant	EPH-Code	PCP	Lindan
4/5	K-PB-4-R3/1..3 K-PB-5-R3/1..3	1.0	< LOQ

According to the Chemical Prohibition Ordinance (ChemVerbotsV) § 1 (15) the limit value for PCP is 5 mg/kg. According to the IOS MAT 0010 (Vers.no. AA-10911-16 dated 2022-01-10) the limit value for PCP is 3 mg/kg and the limit for Lindane is 1 mg/kg. The tested chipboards comply these limits. According to DIN EN 13986:2015-06, p. 53, the product must be indicated accordingly with $PCP \leq 5$ ppm.



Dr. Martin Fischer
Chemist in charge

¹ Statements on conformity assessment/classification were made on the basis of the measurement results obtained. Measurement uncertainties are not included in the assessment (ILAC G8 03/2009 "Guidelines on the Reporting of Compliance with Specification" Section 2.7).