Date: 09 May 2025 Email: Sihai.Li@tuvsud.com

Client's Ref:

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#### **SUBJECT**

Evaluation of "DoctorPly" sample.

## **CLIENT**

DKGROUP PTE. LTD. 10 ADMIRALTY STREET #02-51 NORTH LINK BUILDING 757695 SINGAPORE Singapore

## **DESCRIPTION OF SAMPLE**

One small sample and 2 panels labelled as follows were received on 10 Mar 2025:

Brand Name	DoctorPly
Product Name	Harmony Eco-Wood with Melamine Laminate

# **DATE OF TEST**

19 Mar 2025 - 07 May 2025





#### **METHOD OF TEST**

The following emission tests were conducted according to ASTM D5116-17 – Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials / Products, as reference.

#### 1. Emission Test

- 1) Total Volatile Organic Compounds (TVOC) Emission
- 2) Formaldehyde Emission

#### **Emission Test Condition**

Chamber Volume: about 1m³
Temperature: 23°C

3) Relative Humidity: 50%

4) Air Exchange Rate: n=1 (air change rate per hour in the chamber)

5) Chamber Loading Ratio: 0.4-1.0 m²/m³ (total exposed surface area of the test specimen

divided by the net air volume of the emission test chamber)

6) Air Velocity: 0.1 m/s to 0.3 m/s (over the surface of the test specimen)

Remark: Loading Factor of the sample is 0.40 m<sup>2</sup>/m<sup>3</sup>

#### 2. Analysis of Hazardous Substances

1. Heavy metals analysis of Antimony (Sb), Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Mercury (Hg), Selenium (Se) and Tin (Sn)

The sample was digested by inorganic acid, followed by analysis using Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES).

## 2. Analysis of Hexavalent Chromium (Cr6+)

The sample was analysed by UV-Vis spectrometer using 1,5-Diphenylcarbohydrazide as derivatizing agent.



# **RESULTS**

Table 1. Total Volatile Organic Compounds (TVOC) Emission Test Result

Sample	Test Result (After 168 hours)	
DoctorPly	0.23 mg per m <sup>2</sup> per hour	< 0.1 mg per m <sup>3</sup>

# Table 2. Formaldehyde Emission Test Result

Sample	Test Result (After 168 hours)	
DoctorPly	< 0.01 mg per m <sup>2</sup> per hour	< 0.01 mg per m <sup>3</sup>

# Table 3. The elemental analytical results for the sample.

Test	Result
Antimony, Sb	Not Detected <sup>a</sup>
Arsenic, As	Not Detected <sup>a</sup>
Cadmium, Cd	Not Detected <sup>a</sup>
Chromium, Cr	Not Detected <sup>a</sup>
Copper, Cu	Not Detected <sup>a</sup>
Lead, Pb	Not Detected <sup>a</sup>
Mercury, Hg	Not Detected <sup>a</sup>
Selenium, Se	Not Detected <sup>a</sup>
Tin, Sn	Not Detected <sup>a</sup>
Hexavalent Chromium, Cr (VI)	Not Detected <sup>a</sup>

<sup>&</sup>lt;sup>a</sup>The method detection limit was 50 mg/kg.

MS LOO SHIRLYN

**CHEMIST** 

DR LI SIHAI

AVP / SENIOR CHEMIST CHEMICAL & MATERIALS



# <u>APPENDIX – SAMPLE PHOTO</u>





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Effective 27 March 2024