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Client: TAIZHOU HUALI PLASTIC CO., LTD.

Zhangdian Industrial Zone, Jiangyan City, Jiangsu, China

Identification/ Model No(s): Wood-Plastic Base Material

Sample Receiving date: 2014-06-24

**Testing Period:** 2014-06-24 – 2014-07-09

**Scope:** Emission test for VOC and Formaldehyde are based on methods:

ISO 16000 - Part 3: Determination of formaldehyde and other carbonyl compounds

Active sampling method

ISO 16000 - Part 6: Determination of volatile organic compounds in indoor and test

chamber air by active sampling on Tenax TA sorbent, thermal desorption and gas

chromatography using MS/FID

ISO 16000 - Part 9: Determination of the emission of volatile organic compounds

from building products and furnishing -- Emission test chamber method.

Evaluation based on the AgBB requirements

#### Remark:

Please be kindly informed that all the content recorded in the captioned report Q00325803-2 is cancelled and now superseded by Q00325803-2R1.

For and on behalf of TÜV Rheinland (Shanghai) Ltd.

2014-07-22 Zhang Liang / Project Manager

Date Name/Position

Test result is drawn according to the kind and extent of tests performed.

This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.



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## **Material list:**

Item:

Material No.	Material	Color	Location
1	Plastic + wood	Beige	Refer to photo



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### 1. Facts

Scope: VOC Emission testing – For 3 days with evaluation based on

the AgBB requirements

## 2. Test conditions

Test chamber conditions:

Test chamber: Corresponding to ISO 16000-9

Test chamber volume: 1m<sup>3</sup>

Temperature supply air: 23 °C  $\pm$  2 °C 50 % r.h.  $\pm$  5% r.h. Exchange of air: 0.5 h<sup>-1</sup>  $\pm$  0.1 h<sup>-1</sup> 1.25 m<sup>3</sup>/(m<sup>2</sup> h)

Loading factor: 0.4 m<sup>2</sup> / m<sup>3</sup> Inflow velocity: 0.3 m/s

Test procedure:

Standards: VOC: DIN EN ISO 16000-6

Formaldehyde: ISO 16000-3

VOC determination method:

Gas chromatography with mass spectrometric determination\

High Performance Liquid Chromatography with mass

spectrometric determination

VOC sampling:

Adsorption medium: Tenax TA/DNPH

Sampling system: SKC sampling pumps

### 3. Results

#### 3.1 VOC emission test results

The emission test results after 3 days are shown respectively in table 1.

Table 1. Emission Results after 3 days

Detected Substances	CAS No.	Chamber concentration (C <sub>i</sub> ) [µg/m³]	LCI/NIK value [µg/m³]	R value (C <sub>i</sub> /LCI)	Classification (Carc. 1 and 2)/ SVOC
2-ethyl-1-hexanol	104-76-7	9	540	0.0167	
n-propylacetate	109-60-4	6	4200	0.0014	
Methylmethacrylate	80-62-6	6	2100	0.0029	
1,3-Dichloro-2-propanol	96-23-1	<1			Carc. 2
TVOC** (C <sub>6</sub> -C <sub>16</sub> )		21			
TSVOC** (> C <sub>16</sub> )		<1			

<sup>\*</sup> quantified by converting the total area of the chromatogram to toluene equivalents

Notes:

VOC = Volatile Organic Compounds, TVOC = Total Volatile Organic Compounds

LCI (or NIK) = Lowest Concentration of Interest. N.D = No detected. Limit of quantification: 1 µg/m



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## 4. Evaluation

The VOC emission test results were evaluated based on the requirements of the AgBB – Evaluation procedure for VOC emission from building products.

Table 2. Evaluation of results based on the AgBB limits.

	3 Days			
Parameters	Results [mg/m³]	AgBB Anforderungen requirements	Abbruchkriterien break-off criteria	
TVOC (C <sub>6</sub> – C <sub>16</sub> )	0.021	≤ 10 mg/m <sup>3</sup>	≤ 0.3 mg/m <sup>3</sup>	
∑ SVOC (C <sub>16</sub> – C <sub>22</sub> )	<1	None	≤0.03 mg/m <sup>3</sup>	
∑ R (dimensionless)	0.021	None	≤0.5	
∑ VOC without LCI	0	None	≤0.05 mg/m <sup>3</sup>	
∑ Carcinogenic	n.d.	≤ 0.01 mg/ m <sup>3</sup>	≤0.001 mg/m <sup>3</sup>	
Formaldehyde	0.01	None	≤0.060 mg/m <sup>3</sup>	



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# Sample photo:



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