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RIF Ametist Ltd  
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140730 Roshal, Moscow Region  
Russland - Russia

Braunschweig, 02.01.2017

## Test report No. MAIC-2017-0011

<b>Customer:</b>	RIF Ametist Ltd, Roshal, Moscow Region.	
<b>Object of the test:</b>	Chamber emission test of a foam sample.	
<b>Contents:</b>	1. Sample description	Page 2
	2. Methods	Page 2
	3. Results	Page 2

This report comprises 5 pages.

The test report may be made available or duplicated only in its unabridged form. Publication in excerpt form is subject to the written consent of the Fraunhofer Institute for Wood Research – Wilhelm-Klauditz-Institut (WKI). The test results refer solely to the objects tested. The tested material was used up.

### Sample description:

WKI no.	Date of reception	Sample Name (this information is provided by the customer)	Product No.	Manufacturer-Code	Date-Stamp
P57738	19.12.2016	ST3542	4958	RIF Ametist	n.a.

(Sample P57738: aluminum foil/wrapped separately, wrapping ok)

Notice: Oversized samples as in this order can only be stored for two weeks after the report date. They will be disposed without further notice. Please contact us soon if the sample material needs to be returned. Sample material for emission tests cannot be retained for repeated tests, it will only be stored for identification and documentation purposes.



### Methods:

#### Chamber emission test:

The sample was tested in the emission test chamber without prior conditioning. After defined times samples of the chamber air were collected on sorbent tubes (Tenax TA) and analyzed on a thermal desorption-GC/MS system. Compounds were identified using MS-Spectra libraries, quantification was done using pure reference compound mixtures. The described method covers volatile organic compounds from C5 to C22 and has a limit of determination of approx. 1 µg/m<sup>3</sup>. Substances in the range of C6 to C16 are reported as VOC, the more volatile ones as VVOC and those eluting after C16 as SVOC. The measurements were performed according to DIN EN ISO 16000 part 6, 9 and 11.

### Results:

The quantitative test results can be found on the next page.

**Results of the chamber emission test of sample P57738 (ST3542)**

CAS-No.	Substance	Concentration in $\mu\text{g}/\text{m}^3$ after			Info
		5h	24h	48h	
000064-17-5	Ethanol	3	< 1	< 1	<C6c
000067-64-1	Acetone	2	4	2	<C6bc
000071-23-8	n-Propanol	5	< 1	< 1	<C6c
000064-19-7	Acetic acid	10	14	12	bd
000071-36-3	n-Butanol	32	3	< 1	bd
000107-98-2	1-Methoxy-2-propanol	147	7	< 1	bd
001569-02-4	1-Ethoxy-2-propanol	3	< 1	< 1	
000108-88-3	Toluene	4	< 1	< 1	bdhp
002517-43-3	3-Methoxy-1-butanol	5	3	1	bd
	Ketone (Toluene)	4	< 1	< 1	
000108-65-6	1-Methoxy-2-propyl acetate	5	2	< 1	bd
000123-19-3	4-Heptanone (Toluene)	1	< 1	< 1	d
000142-96-1	Dibutyl ether	2	< 1	< 1	d
000141-32-2	Butyl acrylate	12	3	< 1	bd
000590-01-2	Butyl propionate	3	< 1	< 1	
	Carboxylic acid ester (Methyl dodecanoate)	1	< 1	< 1	
000100-52-7	Benzaldehyde	1	1	< 1	bd
000109-21-7	Butyl butyrate	1	< 1	< 1	
000124-19-6	n-Nonanal	1	1	< 1	bd
000112-31-2	n-Decanal	1	< 1	< 1	bd
	Sum VVOC (< C6):	10	5	2	
	Sum VOC (C6-C16):	233	34	13	
	Sum SVOC (> C16):	< 1	< 1	< 1	
	TVOC Toluene equivalents (ISO 16000-6) :	93	17	< 1	

(The fragments/substances shown in subscript were used for the quantification.)

Additional information: **a** acute toxic substance cat. 1+2+3 (acc. UN-GHS/CLP); **b** German LCI list; **c** safe sampling volume too low, underestimation likely; **d** odor relevant; **e** compound boiling point exceeds thermal limit of the TDS unit – underestimation likely; **f** terpene, possibly wood-related; **g** chronic toxic substance CMR cat. 1A+1B (acc. UN-GHS/CLP); **h** aromatic solvent IOS-MAT-0054; **i** chlorinated solvent IOS-MAT-0054; **l** specific target organ toxic substance STOT RE1+SE1 (acc. UN-GHS/CLP); **p** listed in Proposition 65; **<C6** VVOC compound; **>C16** SVOC compound.

The TVOC Toluene equivalents has no requirement level and is reported solely for information purposes.

**Parameters of the emission chamber test:**

Chamber type: 500l-stainless steel chamber 6

Climatic conditions: 23 °C, 50 % r.h.

**Air exchange: 1.16 h<sup>-1</sup>**
**Loading factor: 1.16 m<sup>2</sup>/m<sup>3</sup>**

Test started: 21.12.2016 06:54:05

Sampling: Tenax TA

Analysis: Thermal desorption GC/MS



Photo of the tested sample part(s).

**Evaluation according to IOS-MAT 0010 (Ver. AA-10911-13)**

Substance class	Present		Level				
	Yes	No	Traces	Low	Moderate	High	Very high
Emission of volatile organic compounds Compounds: Acetic acid.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emission of odor relevant compounds Compounds: Acetic acid, n-butanol, 1-methoxy-2-propanol, toluene, 3-methoxy-1-butanol, 1-methoxy-2-propyl acetate, 4-heptanone, dibutyl ether, butyl acrylate, benzaldehyde, n-nonanal, n-decanal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emission of toxic compounds Compounds:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<b>Evaluation after:</b>		<b>48 hours</b>			
TVOC requirements <sup>1</sup> [ $\leq 1.2 \text{ mg/m}^3$ ] fulfilled?			<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No		
Acute toxic/STOT VOC <sup>2</sup> requirements <sup>3</sup> fulfilled?			<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No		
Chronic toxic VOC <sup>2</sup> requirements <sup>3</sup> fulfilled?			<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No		

<sup>1</sup> according to IOS-MAT-0010; <sup>2</sup> according to EG-GHS-regulation; <sup>3</sup>  $\leq 10 \text{ } \mu\text{g/m}^3$  individual CMR-substance cat. 1A+1B and  $\leq 50 \text{ } \mu\text{g/m}^3$  sum of all CMR-substances cat. 1A+1B and  $\leq 30 \text{ } \mu\text{g/m}^3$  each individual acute toxic substance class 1+2+3 and specific target organ toxic substance class RE1+SE1.

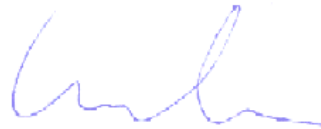
**Remarks:** The sample material was a weak source of volatile organic compounds (VOC). The odorous compounds acetic acid, n-butanol, 1-methoxy-2-propanol, toluene, 3-methoxy-1-butanol, 1-methoxy-2-propyl acetate, 4-heptanone, dibutyl ether, butyl acrylate, benzaldehyde, n-nonanal and n-decanal were detected in trace concentrations.

Officer in Charge



A. Omelan

For the department



Dr. E. Uhde