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Braunschweig, 13.12.2018

Test report No. MAIC-2018-5234

Customer: RIF Ametist, Roshal, Moscow region.

Objective of the test: Chamber emission test of a foam sample.

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This report comprises 5 pages.

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Sample description:

WKI no.	Date of reception	Sample Name (this information is provided by the customer)	Product No.	Manufacturer-Code	Date-Stamp
P73859	07.12.2018	ST2836	3181	RIF Ametist	n.a.

(Sample P73859: aluminum foil/wrapped separately, wrapping ok)

Notice: Sample material will be stored for 2 months after test report date. Please contact us if an extended storage time is required or if 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/m³. 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 P73859 (ST2836)

CAS-No.	Substance	Concentration in $\mu\text{g}/\text{m}^3$ after			Info
		5h	24h	48h	
000064-17-5	Ethanol	7	2	< 1	<C6c
000067-63-0	2-Propanol	2	3	< 1	<C6c
000071-23-8	n-Propanol	2	4	< 1	<C6c
001066-40-6	Trimethylsilanol	1	< 1	< 1	<C6c
000071-36-3	n-Butanol	44	3	< 1	bd
000107-98-2	1-Methoxy-2-propanol	308	7	< 1	bd
000057-55-6	1,2-Propanediol	6	3	2	b
000108-88-3	Toluene	54	11	< 1	bdh
000066-25-1	n-Hexanal	2	2	< 1	bd
000123-86-4	n-Butyl acetate	5	< 1	< 1	bd
002517-43-3	3-Methoxy-1-butanol	9	5	2	bd
000123-19-3	4-Heptanone (Toluene)	3	< 1	< 1	d
000108-65-6	1-Methoxy-2-propyl acetate	10	2	< 1	bd
000142-96-1	Dibutyl ether	4	< 1	< 1	d
000141-32-2	Butyl acrylate	9	1	< 1	bd
000590-01-2	Butyl propionate	4	< 1	< 1	d
000099-87-6	p-Cymene	1	2	< 1	b
	Sum VVOC (< C6):	12	9	< 1	
	Sum VOC (C6-C16):	459	36	4	
	Sum SVOC (> C16):	< 1	< 1	< 1	
	TVOC Toluene equivalents (ISO 16000-6) :	192	31	< 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 substance; **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⁻¹
Loading factor: 1.16 m²/m³

Test started: 10.12.2018 07:46:47

Sampling: Tenax TA

Analysis: Thermal desorption GC/MS



Photo of the tested sample part(s).

Evaluation according to IOS-MAT 0010 (Ver. AA-10911-14)

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

¹ according to IOS-MAT-0010; ² according to EG-GHS-regulation; ³ $\leq 10 \text{ } \mu\text{g/m}^3$ 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; ⁴ $\leq 20 \text{ } \mu\text{g/m}^3$ individual chlorinated substance and $\leq 50 \text{ } \mu\text{g/m}^3$ sum of all chlorinated substances.

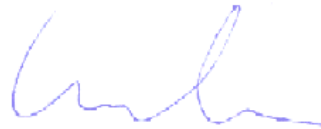
Remarks: The sample material was a weak source of volatile organic compounds (VOC). The odorous compounds n-butanol, 1-methoxy-2-propanol, toluene, n-hexanal, n-butyl acetate, 3-methoxy-1-butanol, 4-heptanone, 1-methoxy-2-propyl acetate, dibutyl ether, butyl acrylate and butyl propionate were detected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

Officer in Charge



A. Omelan

For the department



Dr. E. Uhde