SGS INSTITUT FRESENIUS GmbH · · Im Maisel 14 · D-65232 Taunusstein

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SPAIN

Test report **5741002**
Order: **6088176**
Customer No.: **10010193**

DAkkS Deutsche Akkreditierungsstelle D-PL-14115-02-10

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Dresden, 25. 04. April 2022

Emission test by means of test chamber method according to DIN EN 16516 (2018-01) for VOC and aldehydes - test according to the requirements AgBB scheme (2021-06)

Customer:	SGS Espanola de Control, S.A.
Your Reference/Order No.:	PIVEMA / VOC - AgBB
Contact person customer:	Íñigo Garcia Vázquez
Sample number:	220001234
Sample identification:	AQUAPUR PREMIUM, Barniz (container 600 gr) + Endurecedor (container 180 gr), Pivema
Date of delivery:	28.01.2022
Test period:	18.02.2022 – 24.03.2022

Dieser Prüfbericht ersetzt unseren Prüfbericht 5727417 vom 25.03.2022.
- The name of the tested product was corrected -

SGS Institut Fresenius GmbH

i. V.
Ramona Eßbach
Laboratory Manager

i. A.
Oscar Molina
Customer service

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Geschäftsführerin: Alida Scholtz, Aufsichtsratsvorsitzender: Wim van Loon, Sitz der Gesellschaft: Taunusstein, HRB 21543 Amtsgericht Wiesbaden

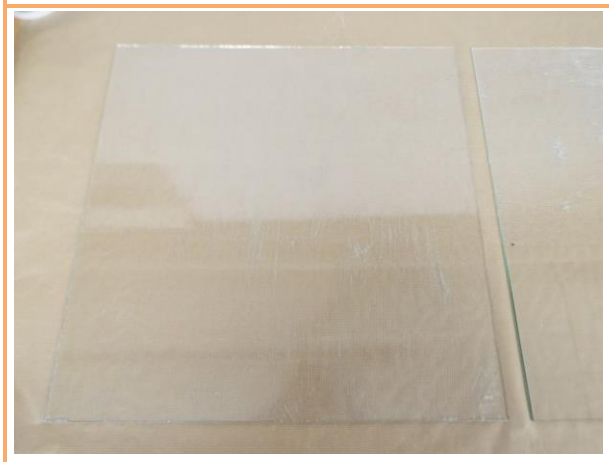
Erstellt: 04.04.2022 i.A. Oscar Molina Customer Service.
Freigegeben: 04.04.2022 i. V. Anetta Todt Customer Services.

1. Order content

The emission of volatile organic compounds (VOC) and formaldehyde shall be determined according to the requirements of AgBB scheme (2018-08).
The emission test is performed according to DIN EN 16561 (2018-01).

2. Product description

Sampling location:	unknown
Date of sampling:	unknown
Product name:	Aquapur Premium (Base + Catalizador)
Sample type:	Polyurethane Flooring
Item number:	Lote 77127
Batch number:	unknown
Production date Batch:	unknown
Sample taken from:	unknown
Place of storage/packaging:	inventory level

Fig. 1 – Delivery condition	Fig. 2 - Delivery condition
	
Fig. 3 - Prepared test piece	Fig. 4 – Placed in emission chamber
	

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3. Sample preparation

Aquapur Premium Base and the Catalyst were mixed in a ratio of 10:3. This mixture was applied to an inert material (glass) at a rate of 125g/m² for one layer. In total, 2 layers were applied.

4. Test conditions

The emission test was determined under the following defined conditions:

Temperature	(23 ± 1) °C
Relative humidity	(50 ± 5) %.
Exposure duration	28 days
Air exchange rate n	0.5 ± 0.025 [/h].
Product area	0,4 [m²]
Test chamber volume	1 [m³]
Product loading factor L	0,4 [m²/m³]
specific air flow rate	1,25 [m³/ m² h]

The emission on volatile organic compounds VOC is carried out after sampling on Tenax TA with subsequent thermal desorption and measurement with GCMS/FID according to DIN EN 16156 (2018-01).
The calculation of the results of identified target compounds (NIK list) is performed by means of substance-specific response factor. Non-target compounds as well as unidentified compounds are quantified by the response factor of toluene.
The limit of quantification is 1µg/m³ per compound.
The expanded measurement uncertainty is approx. 20 - 40 % per compound.

The determination of formaldehyde and acetaldehyde is carried out after enrichment on DNPH cartridges and analysis by HPLC and UV detection according to DIN ISO 16000-3 (2013-01). The limit of determination is in each case 2 µg/m³ per compound.
The expanded measurement uncertainty is approx. 20 - 25 % per compound.

Before starting the test, a blank value check is carried out for all compounds to be determined.

5. Results

The conformity assessment is based on the requirements of the AgBB assessment scheme (06-2021) without taking measurement uncertainties into account.

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5.1 Emission values µg/m³

	Substance	CAS	Conc. Ci 3 days	Conc. Ci 7 days	Conc. Ci 28 days	LCI
			µg/m³	µg/m³	µg/m³	µg/m³
VVOC	Formaldehyde 1	50-00-0	<2	<2	<2	100
VVOC	Acetaldehyde	75-07-0	<2	<2	<2	300
VOC	1.2-Propylene glycol mono butylether	29387-86-8	30	20	9	650
VOC	m,p-Xylene	106-42-3	4	5	13	500
VOC	o-Xylene	95-47-6	2	3	6	500
VOC	3.4- Ethyltoluene	622-96-8	14	10	4	450
VOC	1.2.4-Trimethylbenzene	95-63-6	19	13	6	450
VOC	Undecane	1120-21-4	8	5	2	6000
VOC	Dodecane	112-40-3	7	4	2	6000
VOC	unidentified compound	-	5	2	-	-
Sum TVOC (C6-C16)*			83	53	34	
Sum TSVOC (>C6 - C22)**			n. d.	n. d.	n. d.	
Carcinogenic substances 2			n. d.	n. d.	n. d.	
Total VOC without LCI ***			5	-	-	
R-Value			0,12	0,09	0,05	

5.2 Comparison of the results with the requirements according to the AgBB scheme (mg/m³)

Substance	Conc. Ci 28 days	Requirements AgBB scheme final value 28 days
	mg/m³	mg/m³
Sum TVOC (C6-C16)*	0,034	≤ 1
SumTSVOC (>C6 – C22)**	≤ 0,1	≤ 0,1
Carcinogenic substances 2	≤ 0,001	≤ 0,001 per single substance
Non-evaluable substances (total VOC without LCI*)**	≤ 0,1	≤ 0,1
Evaluable substances (R-value)	0,05	≤ 1 (dimensionsless)
Formaldehyde 1	<0,002	≤ 0,1 (LCI)

Ci concentration of individual substance (substance-specific quantified for target compounds (with LCI), quantified via toluene-. response for non-target compounds (without LCI) and for unidentified compounds.
n. d. - not detected (limits of quantification see pt. 4)
* Sum calculated from the detected compounds (identified and not identified) with a concentration ≥5 µg/m³ in the range C6-C16 (without acetic acid), according to 8.2.6.1 method 2 of DIN EN 16516.
** Sum calculated from the detected compounds with a concentration ≥5 µg/m³ in the range >C16-C22.
*** including unidentified compounds, according to 8.2.6.1 procedure 2 of DIN EN 16516
1 Carcinogen 1B (excluded from carcinogen substance consideration)

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2 Classification according to Regulation (EC) No. 1272/2008 Annex VI
LCI - lowest concentration of interest (AgBB scheme as of June 2021)
R = Sum of all Ri - Sum of all quotients Ci/LCI (concentrations from 5 µg/m³ are considered)
TE Toluene equivalent (related to response factor of toluene)

- End of the test report -

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