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WKI

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Financiera Maderera S.A. (FINSA)
Attn: Mr. Rafael Fort
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15884 Santiago de Compostela
Spain

Braunschweig, 28.02.2013

Test report No. MAIC-2013-0530

Customer: Financiera Maderera S.A. (FINSA), Spain.

Object of the test: Testing and evaluation of a melamine faced board according to the French VOC standard DEVL1104875A.

Contents:

This report comprises 6 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
P30758	17.01.2013	Melamine faced board (under trade name of Superpan Decor)	n.a.	n.a.	n.a.

(Sample P30758: 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.

Sample description:

General description: melamine faced board

Total Thickness [mm]: 16

Area weight [kg/m²]: 11.028

Methods:

Sample preparation: Directly after unwrapping 1 m² of the sample material were placed in a 1 m³ glass chamber. The back side and the small faces were sealed with aluminum foil. The sample was placed on the chamber floor during the entire testing time.

Chamber emission test: The sample was tested in an emission test chamber without prior conditioning. After defined times (3, 7 and 28 days) 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 has a limit of determination of approx. 1 µg/m³. The volatile aldehydes were trapped on DNPH-coated cartridges and analyzed after elution with acetonitrile by HPLC-UV.
The measurements were performed according to DIN EN ISO 16000 part 3,6, 9 and 11.

Results:

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

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Results of the chamber emission test of sample P30758 (Melamine faced board)

RT	CAS-No.	Substance	Concentration in µg/m³ after 3d	7d	28d	Info
6.59	000064-19-7	Acetic acid	10	10	7	bd
23.55	000080-56-8	alpha-Pinene	36	38	55	bdf
25.56	018172-67-3	beta-Pinene	4	4	7	bdf
39.31	002607-52-5	2,6-Di-t-butyl-4-methylene-2,5-cyclohexadiene-1-one (Toluene)	1	<1	<1	
39.68	000096-76-4	2,4-Di-tert-butylphenol (Toluene)	2	1	<1	
Sum of all measured compounds as VVOC value (< C6):			<1	<1	<1	
Sum of all measured compounds as TVOC* original response value:			53	53	69	
Sum of all measured compounds as TVOC Toluen value:			53	53	73	
Sum of all measured compounds as SVOC value (> C16):			<1	<1	<1	

(The fragments/substances shown in subscript were used for the quantification)
Additional information: (b) German LCI list; (c) Safe sampling volume too low, underestimation possible; (d) odor relevant; (e) compound boiling point exceeds thermal limit of the TDS unit – underestimation likely; (f) terpene, possibly wood-related; (h) aromatic substance IOS-MAT0054; (i) chlorinated solvent IOS-MAT0054; (<C6) VVOC compound; (>C16) SVOC compound.
Classification according to UN GHS / EC 1272/2008: (a): acute toxic substance cat. 1+2+3; (g): chronic toxic substance CMR cat. 1A+1B; (l): specific target organ toxic substance STOT RE1+SE1

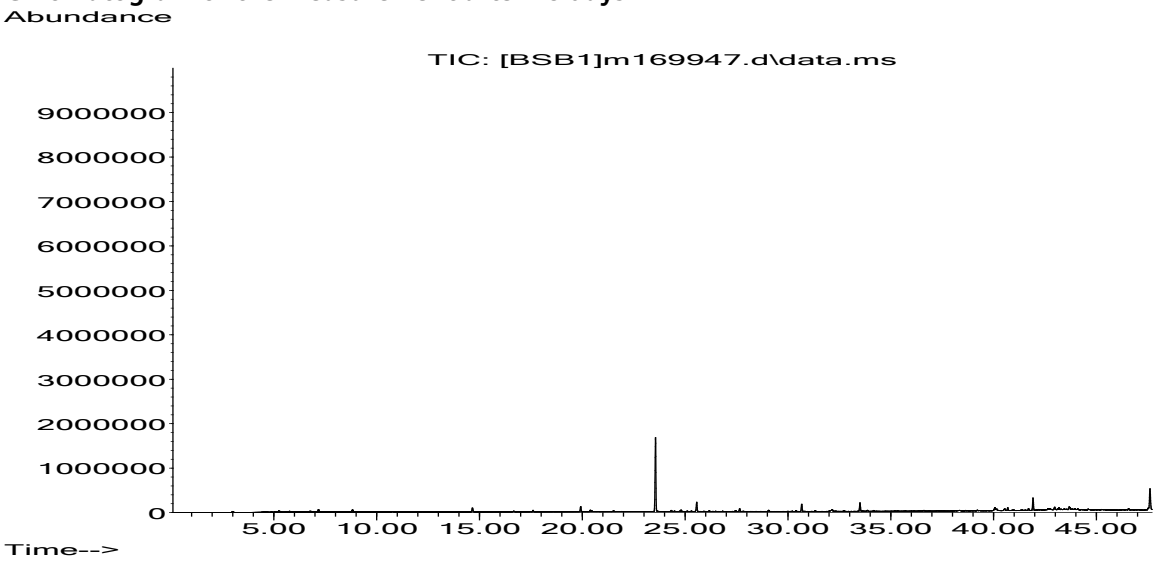
Lower aldehyde results of sample P30758 (Melamine faced board)

CAS-No.	Substance	Concentration in µg/m³ after 3d	7d	28d	Limit of determination [µg/m³]
50-00-0	Formaldehyde	<3	9	8	3
75-07-0	Acetaldehyde	<2	3	3	2
123-38-6	Propanal	5	<1	<1	1
123-72-8	Butanal	<2	<2	<2	2

Parameters of the emission chamber test:

Chamber type: 1m³-stainless steel chamber 15
Climatic conditions: 23 °C, 50 % r.h.
Air exchange: 0.5 h^{-1}
Loading factor: 1.0 m^2/m^3
Area specific air exchange rate q: 0.5 $m^3/(m^2*h)$
Test started: 18.01.2013 12:16:39
Sampling: Tenax TA, DNPH
Analysis: Thermal desorption GC/MS, HPLC/UV

Chromatogram of the measurement after 28 days



Evaluation according to the French Standard DEVL1104875A

Cas No.	Classes	C	B	A	A+	measured value after 28 days [µg/m³]
50-00-0	Formaldehyde	>120	< 120	< 60	< 10	8
75-07-0	Acetaldehyde	> 400	< 400	< 300	< 200	3
108-88-3	Toluene	> 600	< 600	< 450	< 300	< 1
127-18-4	Tetrachlorethylene	> 500	< 500	< 350	< 250	< 1
95-47-6 108-38-3 106-42-3	(o-,m-,p-) Xylenes	> 400	< 400	< 300	< 200	< 1
95-63-6	1,2,4-Trimethylbenzene	> 2000	< 2000	< 1500	< 1000	< 1
106-46-7	1,4-Dichlorobenzene	> 120	< 120	< 90	< 60	< 1
100-41-4	Ethylbenzene	> 1500	< 1500	< 1000	< 750	< 1
111-76-6	2-Butoxyethanol	> 2000	< 2000	< 1500	< 1000	< 1
100-42-5	Styrene	> 500	< 500	< 350	< 250	< 1
TVOC-value (toluene equivalents)		> 2000	< 2000	< 1500	< 1000	73

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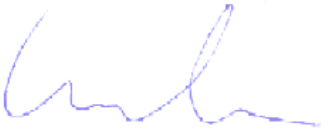
Remarks: The sample material fulfills the requirements for class "A+" according to the French standard 'ARRÊTÉ relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils' (DEVL1104875A).

Officer in charge

A. Ligarski

For the department



Dr. E. Uhde