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Your notice of
 19-09-2011

Your reference

Date
 22-11-2011

Analysis Report 11.81920.01

Required tests :

ISO 16000-3 (2001)

Quantitative determination of aldehydes from textile floor covering (chamber method)

ISO 16000-6 (2004)

Emission of volatile compounds

Identification number	Information given by the client	Date of receipt
T1109626	PURGOTEX	19-09-2011

Eddy Albrecht

Order responsible

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The results of the analysis cover the received samples. Centexbel is not responsible for the representativeness of the samples. In assessing compliance with the specifications, we did not take into account the uncertainty on the test results.

VAT BE 0459.218.289

Fin. Acc. 210-0472965-45

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Reference: T1109626 - PURGOTEX

Quantitative determination of aldehydes from textile floor covering (chamber method)

Date of ending the test 03-11-2011
 Standard used ISO 16000-3 (2001)

Deviation from the standard -

Sample preparation The sample is conditioned in a simulation room at 23°C and 50% R.H.

Residence time (in days) 3 days and 28 days

Air exchange rate 0.5 air exchange per hour

Sampling aldehydes are adsorbed on dinitrophenylhydrazine (DNPH) impregnated silica

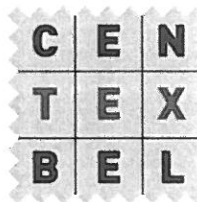
Analytical method RP-HPLC (UV 360 nm)

Results

Determination limit 0.01 mg/m³

	3 days	28 days
	mg/m ³	mg/m ³
Formaldehyde	≤0.01	≤0.01
Acetaldehyde	≤0.01	≤0.01
Acrolein	≤0.01	≤0.01
Propionaldehyde	≤0.01	≤0.01
Crotonaldehyde	≤0.01	≤0.01
Butyraldehyde	≤0.01	≤0.01
Isovaleraldehyde	≤0.01	≤0.01
Valeraldehyde	≤0.01	≤0.01
Hexaldehyde	≤0.01	≤0.01

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Reference: T1109626 - PURGOTEX

Emission of volatile compounds

Date of ending the test	22-11-2011
Based on	ISO 16000-6 (2004)
Product standard	Décret Français sur les COV
Preparation	Based on ISO 16000-11 : procedure of sampling, storage of samples and preparation of test specimens
Sample preparation after X days	3 days and 28 days
Sample preparation	Emission test chamber method (ISO 16000-9) at 23°C and 50% RH under ½ air exchange per hour. Sampling (under continuous ventilation) on Tenax TA
Analytical method	Volatile compounds are thermally desorbed, cryo-trapped and injected into a GC-MS.
Detection	Gas chromatography with Agilent MSD detector.
Quantification	Based on ISO 16000-6 (only mass spectrometer detection is suitable)
Determination limit	2 µg/m ³
Results	

Sample identification Purgotex

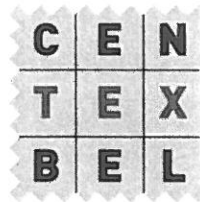
Type of test method	Flec	-		
	Test-chamber	x		
Material of test chamber		Steel	Glass	Other
		x		
Test chamber volume		0.25 [m ³]		
Area of sample		0.1 [m ²]		
Air exchange rate		0.5 [h ⁻¹]		
Area specific air exchange rate q		1.25 [mh ⁻¹]		
Temperature		23 [°C]		
Rel. humidity		50 [%]		

	Date
Insert of sample into the test chamber	23-09-11
Sampling after 3 days	26-09-11
Sampling after - days	
Sampling after 28 days	21-10-11

	Measured conc after 3 days	Measured conc after 28 days	Limit conc for A+ classification (µg/m ³)
Formaldehyde	2	0	<10
Acetaldehyde	0	0	<200
Toluene	113.5	2.7	<300
Tetrachloroethylene	< DL	< DL	<250
Xylene	< DL	< DL	<200
1,2,4-	< DL	< DL	<1000
1,4-Dichlorobenzene	< DL	< DL	<60
Ethylbenzene	< DL	< DL	<750
2-butoxyethanol	< DL	< DL	<1000
Styrene	< DL	< DL	<250
TVOC	555.7	24.6	<1000

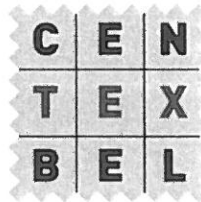
Table 1: Concentration of target components released from sample T1109779 after 3 and 28 days (DL: Determination limit)

Classification: A+



Annex

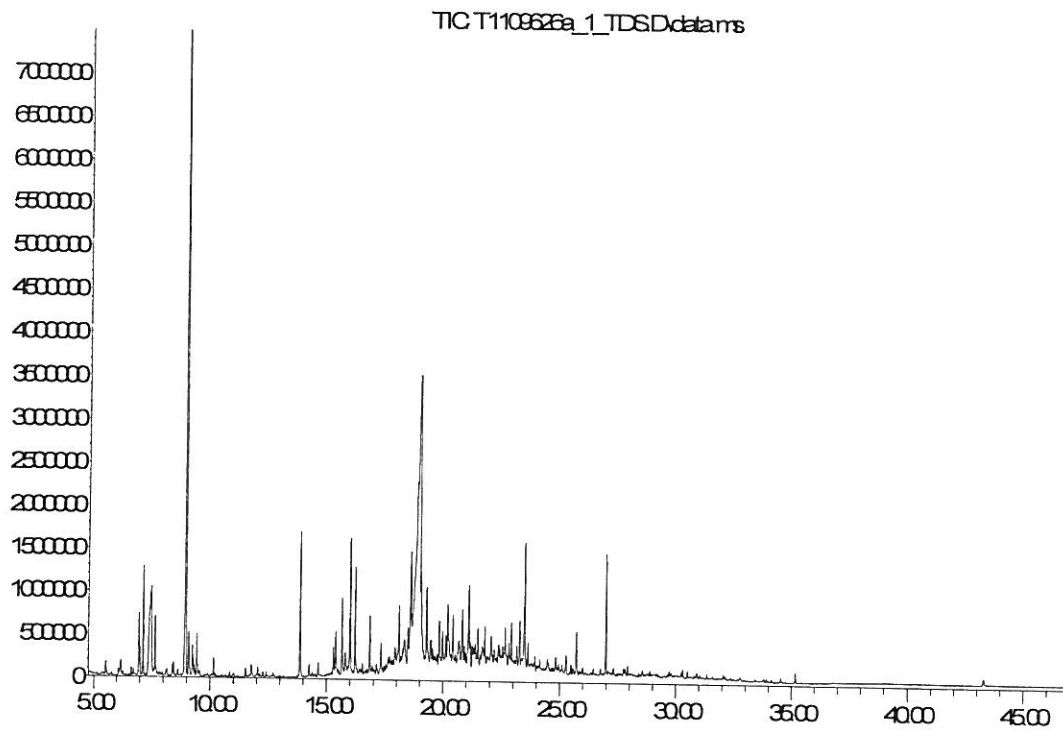
Emission 3 days, TT1109626	CAS-Nr.	RT [min]			Ci	SERi	Classif.	Ri	Id Nr	Legend
Compound		Retention range	Quantification	Identification	[µg/m³]	[µg/m³h]	Carc LCI w/o LCI	[c/LCI]	Serial number	a = substance-specific b = substance-like c = toluene equivalent n = NMPH
2-butanone	78-93-3	5,5	VVOC	c	2	1,1	1,4	LCI 6000	0,00	8-1
Acetic acid	64-19-7	6,2	TVOC	c	2	1,0	1,3	LCI 500	0,00	9-1
Hexane, 2-methyl-	591-76-4	7,0	TVOC	b	2	11,1	13,9	w/o LCI		
Pentane, 2,3-dimethyl-	565-59-3	7,0	TVOC	b	2	4,8	6,0	w/o LCI		
Hexane, 3-methyl-	589-34-4	7,1	TVOC	b	2	18,5	23,1	w/o LCI		
Formamide	75-12-7	7,5	TVOC	c	2	15,8	19,8	w/o LCI		
n-Heptane	142-82-5	7,6	TVOC	a	1	9,8	12,3	LCI 21000	0,00	2-8
Toluene	108-88-3	9,0	TVOC	a	1	113,5	141,9	LCI 1900	0,06	1-1
Cyclopentanone	120-92-3	9,1	TVOC	c	2	3,1	3,9	LCI 900	0,00	8-4
Heptane, 2-methyl-	592-27-8	9,3	TVOC	b	2	4,0	5,0	LCI 15000	0,00	2-9
Heptane, 3-methyl-	589-81-1	9,5	TVOC	b	2	6,8	8,5	LCI 15000	0,00	2-9
n-Octane	111-65-9	10,2	TVOC	a	1	2,2	2,8	LCI 15000	0,00	2-9
p+m-Xylene	1330-20-7	11,8	TVOC	a	1	1,4	1,7	LCI 2200	0,00	1-3
ethylene glycol mono butyl ethe	111-76-2	12,7	TVOC	a	1	1,3	1,6	LCI 980	0,00	6-3
Benzaldehyde	100-52-7	13,9	TVOC	a	1	5,8	7,3	LCI 90	0,06	7-19
n.i.		14,2	TVOC	c	2	1,0	1,3	w/o LCI		
n.i.		15,3	TVOC	c	2	2,2	2,8	w/o LCI		
Dipropylene glycol monomethyl	34590-94-8	15,4	TVOC	c	2	3,5	4,4	w/o LCI		
2-Propanol, 1-(2-methoxypropo	13429-07-7	15,7	TVOC	c	2	4,9	6,1	w/o LCI		
Butanedioic acid, dimethyl este	106-65-0	15,8	TVOC	c	2	1,6	2,0	LCI 6200	0,00	10-20
Benzyl Alcohol	100-51-6	16,0	TVOC	c	2	8,6	10,8	w/o LCI		
Ethylhexanol	104-76-7	16,2	TVOC	a	1	10,8	13,5	LCI 1100	0,01	4-10
n.i.		16,4	TVOC	c	2	1,2	1,5	w/o LCI		
2,2,4,6,6-Pentamethyl-3-hepter	123-48-8	16,5	TVOC	b	2	1,2	1,5	w/o LCI		
Acetophenon	98-86-2	16,8	TVOC	c	2	3,7	4,6	LCI 490	0,01	8-8
n.i.		17,0	TVOC	c	2	1,3	1,6	w/o LCI		
n.i.		17,0	TVOC	c	2	1,1	1,4	w/o LCI		
n.i.		17,1	TVOC	c	2	1,6	2,0	w/o LCI		
n.i.		17,3	TVOC	c	2	3,2	4,0	w/o LCI		
n.i.		17,5	TVOC	c	2	1,2	1,5	w/o LCI		
n.i.		17,6	TVOC	c	2	1,8	2,2	w/o LCI		
n.i.		17,7	TVOC	c	2	1,9	2,4	w/o LCI		
n.i.		17,7	TVOC	c	2	1,1	1,4	w/o LCI		
n.i.		17,8	TVOC	c	2	1,5	1,9	w/o LCI		
n.i.		17,9	TVOC	c	2	1,2	1,5	w/o LCI		
n.i.		17,9	TVOC	c	2	3,4	4,3	w/o LCI		
n.i.		18,0	TVOC	c	2	1,5	1,9	w/o LCI		
nonanal	124-19-6	18,1	TVOC	c	2	5,4	6,8	LCI 1300	0,00	7-7
n.i.		18,2	TVOC	c	2	2,4	3,0	w/o LCI		
n.i.		18,3	TVOC	c	2	2,3	2,9	w/o LCI		
Unknown RT 18.3		18,3	TVOC	c	2	6,3	7,9	w/o LCI		
Naphthalene, decahydro-, cis-	493-01-6	18,5	TVOC	c	2	3,2	4,0	w/o LCI		
n.i.		18,5	TVOC	c	2	1,1	1,4	w/o LCI		
Pentanedioic acid, dimethyl est	1119-40-0	18,6	TVOC	c	2	12,8	16,0	LCI 6800	0,00	10-21
ethylhexanoic acid	149-57-5	18,9	TVOC	c	2	83,1	103,9	LCI 50	1,66	9-10
Unknown RT 19		19,0	TVOC	c	2	11,0	13,8	w/o LCI		
n.i.		19,2	TVOC	c	2	1,3	1,6	w/o LCI		
Isomer of methyl naphthalene, .		19,3	TVOC	c	2	9,7	12,1	w/o LCI		
Isomer of methyl naphthalene, .		19,5	TVOC	c	2	4,1	5,1	w/o LCI		
Benzoic acid	65-85-0	19,6	TVOC	c	2	2,9	3,6	w/o LCI		
n.i.		19,6	TVOC	c	2	1,3	1,6	w/o LCI		
n.i.		19,7	TVOC	c	2	1,3	1,6	w/o LCI		
n.i.		19,7	TVOC	c	2	1,2	1,5	w/o LCI		
n.i.		19,8	TVOC	c	2	1,8	2,2	w/o LCI		
An isomer of methyl naphthalene		19,8	TVOC	c	2	6,0	7,5	w/o LCI		
An isomer of methyl naphthalene		20,0	TVOC	c	2	4,5	5,6	w/o LCI		
An isomer of methyl naphthalene		20,1	TVOC	c	2	4,7	5,9	w/o LCI		
diethylene glycol mono butyl etl	112-34-5	20,2	TVOC	a	1	30,5	38,1	LCI 670	0,05	6-5
n.i.		20,3	TVOC	c	2	2,2	2,8	w/o LCI		
An isomer of methyl naphthalene		20,4	TVOC	c	2	5,4	6,8	w/o LCI		
n.i.		20,5	TVOC	c	2	1,0	1,3	w/o LCI		
n.i.		20,5	TVOC	c	2	2,2	2,8	w/o LCI		
An isomer of dimethyl naphthale		20,7	TVOC	c	2	4,8	6,0	w/o LCI		



n.i.		21.7 TVOC	c	2	2.7	3.4	w/o LCI		
n.i.		21.7 TVOC	c	2	1.7	2.1	w/o LCI		
n.i.		21.8 TVOC	c	2	4.0	5.0	w/o LCI		
n.i.		21.9 TVOC	c	2	3.7	4.6	w/o LCI		
n.i.		22.0 TVOC	c	2	1.1	1.4	w/o LCI		
A cycloaliphatic compound RT		22.1 TVOC	c	2	4.5	5.6	w/o LCI		
n.i.		22.1 TVOC	c	2	1.6	2.0	w/o LCI		
n.i.		22.2 TVOC	c	2	3.9	4.9	w/o LCI		
n.i.		22.3 TVOC	c	2	1.8	2.2	w/o LCI		
n.i.		22.4 TVOC	c	2	3.4	4.3	w/o LCI		
n.i.		22.4 TVOC	c	2	2.0	2.5	w/o LCI		
n.i.		22.5 TVOC	c	2	1.6	2.0	w/o LCI		
n.i.		22.6 TVOC	c	2	2.4	3.0	w/o LCI		
Unknown RT 22.7		22.7 TVOC	c	2	5.7	7.1	w/o LCI		
n.i.		22.7 TVOC	c	2	1.9	2.4	w/o LCI		
n.i.		22.8 TVOC	c	2	3.1	3.9	w/o LCI		
n.i.		22.9 TVOC	c	2	1.1	1.4	w/o LCI		
Aliphatic compound RT=22.9		22.9 TVOC	b	2	3.9	4.9	LCI 6000	0.00	2-10
n.i.		23.0 TVOC	c	2	2.0	2.5	w/o LCI		
n.i.		23.1 TVOC	c	2	1.5	1.9	w/o LCI		
n.i.		23.2 TVOC	c	2	3.4	4.3	w/o LCI		
n.i.		23.3 TVOC	c	2	5.1	6.4	w/o LCI		
n.i.		23.4 TVOC	c	2	2.6	3.2	w/o LCI		
n-Tridecane	629-50-5	23.5 TVOC	a	1	6.0	7.5	LCI 6000	0.00	2-10
1,1'-Bicyclohexyl	92-51-3	23.6 TVOC	c	2	3.8	4.7	w/o LCI		
n.i.		23.8 TVOC	c	2	1.9	2.4	w/o LCI		
n.i.		23.9 TVOC	c	2	1.1	1.4	w/o LCI		
n.i.		23.9 TVOC	c	2	1.0	1.3	w/o LCI		
n.i.		23.9 TVOC	c	2	1.6	2.0	w/o LCI		
n.i.		24.0 TVOC	c	2	1.5	1.9	w/o LCI		
n.i.		24.1 TVOC	c	2	1.8	2.2	w/o LCI		
n.i.		24.2 TVOC	c	2	1.2	1.5	w/o LCI		
n.i.		24.3 TVOC	c	2	1.1	1.4	w/o LCI		
Heptylcyclohexane	5617-41-4	24.5 TVOC	c	2	1.9	2.4	w/o LCI		
n.i.		24.5 TVOC	c	2	1.9	2.4	w/o LCI		
Aliphatic compound RT=24.7		24.7 TVOC	b	2	1.2	1.5	LCI 6000	0.00	2-10
n.i.		24.7 TVOC	c	2	1.0	1.3	w/o LCI		
n.i.		24.8 TVOC	c	2	2.3	2.9	w/o LCI		
n.i.		24.9 TVOC	c	2	1.1	1.4	w/o LCI		
Aliphatic compound RT=25.1		25.1 TVOC	b	2	2.5	3.1	LCI 6000	0.00	2-10
Aliphatic compound RT=25.3		25.3 TVOC	b	2	2.4	3.0	LCI 6000	0.00	2-10
n.i.		25.6 TVOC	c	2	1.7	2.1	w/o LCI		
n-Tetradecane	629-59-4	25.7 TVOC	a	1	2.0	2.5	LCI 6000	0.00	2-10
n.i.		26.0 TVOC	c	2	1.5	1.9	w/o LCI		
n.i.		26.1 TVOC	c	2	1.5	1.9	w/o LCI		
n.i.		26.3 TVOC	c	2	1.2	1.5	w/o LCI		
n.i.		26.5 TVOC	c	2	1.2	1.5	w/o LCI		
n.i.		26.8 TVOC	c	2	1.4	1.7	w/o LCI		
Dodecane, 1-chloro-	112-52-7	27.0 TVOC	c	2	6.7	8.4	w/o LCI		
n.i.		27.1 TVOC	c	2	1.6	2.0	w/o LCI		
n.i.		27.3 TVOC	c	2	1.4	1.7	w/o LCI		
n.i.		27.8 TVOC	c	2	1.0	1.3	LCI 100	0.01	5-2
n.i.		27.9 TVOC	c	2	1.3	1.6	w/o LCI		
n.i.		28.6 TVOC	c	2	1.4	1.7	w/o LCI		
n.i.		30.3 SVOC	c	2	1.1	1.4	w/o LCI		
n.i.		30.5 SVOC	c	2	1.0	1.3	w/o LCI		

Table 2: Components released after 3 days

Abundance



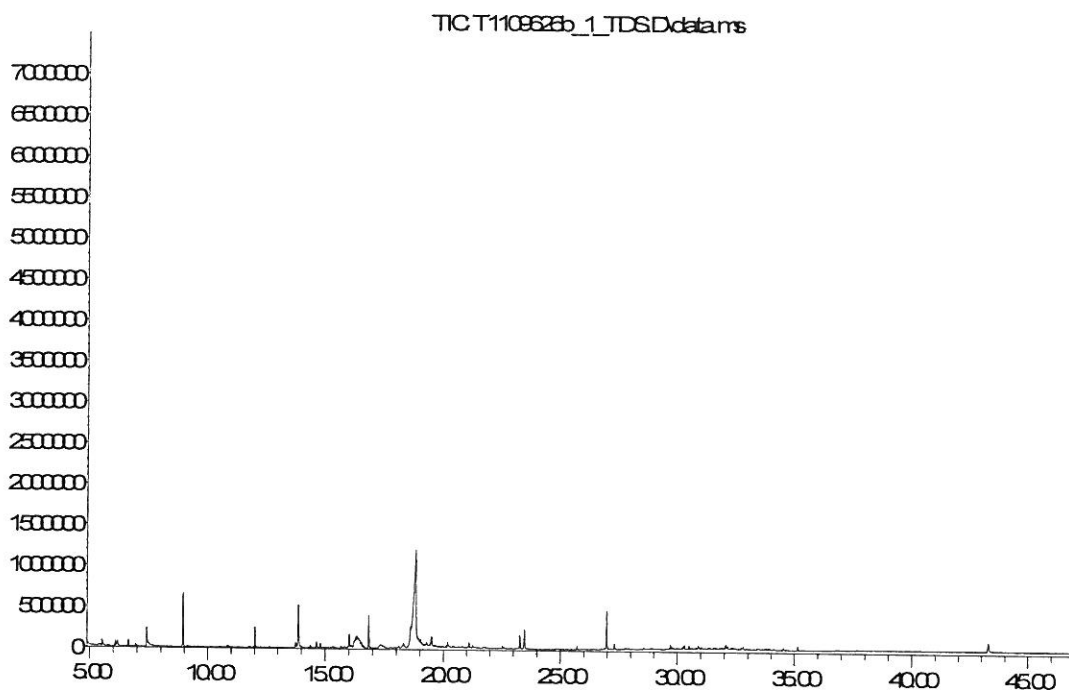
Time ->

Fig 1: TIC chromatogram of emitted components from sample T1109626 after 3 days

Emission 28 days, TT1109626	CAS-Nr.	RT [min]			Ci	SERi	Classif.	Ri	Id Nr	Legend	
Compound			Retention range	Quantification	Identification	[µg/m³]	[µg/m³h]	Carc LCI w/o LCI	[c/LCI]	Serial number	
Formamide	75-12-7	7.4	TVOC	c	2	1.5	1.9	w/o LCI			
Toluene	108-88-3	8.9	TVOC	a	1	2.7	3.4	LCI 1900	0.00	1-1	
Benzaldehyde	100-52-7	13.9	TVOC	a	1	1.9	2.4	LCI 90	0.02	7-19	
Acetophenon	98-86-2	16.8	TVOC	c	2	1.1	1.4	LCI 490	0.00	8-8	
Pentanedioic acid, dimethyl est	1119-40-0	18.6	TVOC	c	2	1.9	2.4	LCI 6800	0.00	10-21	
ethylhexanoic acid	149-57-5	18.8	TVOC	c	2	19.9	24.9	LCI 50	0.40	9-10	
Unknown RT 19		19.0	TVOC	c	2	1.4	1.7	w/o LCI			
Benzoic acid	65-85-0	19.5	TVOC	c	2	1.4	1.7	w/o LCI			
1-Tridecene	2437-56-1	23.3	TVOC	a	1	1.4	1.7	w/o LCI			
Dodecane, 1-chloro-	112-52-7	27.0	TVOC	c	2	2.0	2.5	w/o LCI			

Table 3: Components released after 28 days

Abundance



Time->

Fig 2: TIC chromatogram of emitted components from sample T1109626 after 28 days

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