

TEXTE

61/2011

Sensory-based evaluation of building product emis- sions

Integration into the Blue Angel award criteria and
assessment scheme of the Committee for Health
Evaluation of Building Products

Appendix

ENVIRONMENTAL RESEARCH OF THE
FEDERAL MINISTRY OF THE ENVIRONMENT,
NATURE CONSERVATION AND NUCLEAR SAFETY

Project No. (FKZ) 37 07 62 300
Report No. (UBA-FB) 001500/E

Sensory-based evaluation of building product emissions

**Integration into the Blue Angel award criteria and
assessment scheme of the Committee for Health
Evaluation of Building Products**

by

Prof. Dr. Birgit Müller, Jana Panašková, Maciej Danielak
Berlin Technical University Hermann Rietschel Institute for Heating
and Air Conditioning, Berlin

Dr. Wolfgang Horn, Dr. Oliver Jann
BAM Federal Institute for Materials Research and Testing, Berlin

Jana Panašková, Prof. Dr. Dirk Müller
Institute for Energy Efficient Buildings and Indoor Climate of RWTH
Aachen, E.ON ERC, Aachen

On behalf of the Federal Environment Agency (Germany)

UMWELTBUNDESAMT

This publication is only available online. It can be downloaded from <http://www.uba.de/uba-info-medien-e/4186.html> along with a German version.

The contents of this publication do not necessarily reflect the official opinions.

ISSN 1862-4804

Study performed by: Hermann-Rietschel-Institut der TU Berlin
Marchstraße 4
10587 Berlin

Study completed in: December 2010

Publisher: Federal Environment Agency (Umweltbundesamt)
Wörlitzer Platz 1
06844 Dessau-Roßlau
Germany
Phone: +49-340-2103-0
Fax: +49-340-2103 2285
Email: info@umweltbundesamt.de
Internet: <http://www.umweltbundesamt.de>
<http://fuer-mensch-und-umwelt.de/>

Edited by: Section III 1.4 Substance-related Product Issues
Simone Brandt, Anke Öhm, Dr. Wolfgang Plehn

Dessau-Roßlau, October 2011

Annex 1

Members of the project expert group

In addition to the authors, the following list contains the members of the project expert group in alphabetical order:

Gerd Bittner, *Textiles & Flooring Institute GmbH, Aachen*

Hans-Dieter Bossemeyer, *Wessling GmbH, Berlin;*

Peter Braun, *ALAB GmbH, Berlin;*

Simone Brandt, *Umweltbundesamt, Dessau;*

Martina Broege, *Institut für Holztechnologie GmbH, Dresden;*

Christine Däumling, *Umweltbundesamt, Berlin;*

Nicole Dommaschk, *Deutsches Institut für Bautechnik, Berlin;*

Johannes Kasche, *Building Applications Ingenieure, Berlin*

Dr. Frank Kuebart, *eco-Umweltinstitut GmbH, Köln;*

Christine Kühn, *LGA QualiTest GmbH, Nürnberg;*

Dr. Bernd Maciej, *LGA QualiTest GmbH, Nürnberg;*

Dr. Florian Mayer, *Fraunhofer-Institut für Bauphysik, Holzkirchen;*

Anke Oehm, *Umweltbundesamt, Dessau;*

Dr. Olaf Paulus, *Industrie- und Umweltlaboratorium Vorpommern GmbH, Greifswald;*

Dr. Wolfgang Plehn, *Umweltbundesamt, Dessau;*

Christian Scherer, *Fraunhofer-Institut für Bauphysik, Holzkirchen;*

Ana Maria Scutaru, *Umweltbundesamt, Berlin;*

Dr. Kirsten Sucker, *BFGA, Bochum;*

Dr. Erik Uhde, *Fraunhofer-Institut für Holzforschung/Wilhelm-Klauditz-Institut,
Braunschweig;*

Annex 2

Tables summarising the VOC detected

The following tables contain the amounts of all of the VOC and VVOC detected in all products using Tenax and in some cases DNPH. The substances in all products are summarised in Table A-1; the subsequent tables provide information on selected products, sorted according to product group.

Table A-1: List of the detected VOC and VVOC according to frequency of occurrence, mean and median in the chamber tests on the 28th day of testing (in $\mu\text{g m}^{-3}$)

Components	Amount	Max	Min	Mean	Median
Acetic acid	14	370	13	91	44
2-ethyl-1-hexanol	9	23	1	9	9
4-Phenylcyclohexene	8	300	1	96	48
Hexamethylcyclotrisiloxane	6	110	2	55	62
Benzothiazole	6	35	1	10	5
Ethylene glycol (Ethanediol)	4	470	17	137	30
Diethylene glycol	4	130	14	76	80
Methylisothiazolinone (MIT)	4	41	2	22	23
Benzaldehyde	3	11	2	8	11
Cyclohexanone	3	6	2	4	4
n-buthyl ether	2	18	2	10	
1.4-Butanediol	2	83	75	79	
Methylpyrrolidone	2	140	100	120	
Diethylene glycol-monobutyl ether	2	17	16	17	
Longifolene	2	46	2	24	
Acetone	2	230	55	143	
Naphthalene	2	7	5	6	
1-butyl acetate	2	3	3	3	
α -pinene	2	5	4	5	
β -pinene	2	5	1	3	
Limonene	2	5	2	4	
1-Butanol	2	19	9	14	

Table A-2: The frequency of occurrence, mean and median of the 5 VOC most frequently detected (using Tenax) out of **carpets** on day 29 of testing (in $\mu\text{g m}^{-3}$)

Components	Amount	Max	Min	Mean	Median
4-Phenylcyclohexene	6	300	1	72	34
Acetic acid	3	26	13	19	18
2-ethyl-1-hexanol	2	9	1	5	
Hexamethylcyclotrisiloxane	2	90	3	47	
Diethylene glycol	2	47	14	31	

Table A-3: The frequency of occurrence, mean and median of the 9 VOC most frequently detected (using Tenax) out of **elastic floorings** on day 29 of testing (in $\mu\text{g m}^{-3}$)

Components	Amount	Max	Min	Mean	Median
Acetic acid	4	170	16	64	34
2-ethyl-1-hexanol	3	9	1	6	7
Benzothiazole	3	35	1	17	15
Cyclohexanone	2	6	4	5	
1,4-Butanediol	2	83	75	79	
Methylpyrrolidone	2	140	100	120	
Diethylene glycol-monobutyl ether	2	17	16	17	
Naphthalene	2	7	5	6	
Hexanal	2	19	9	14	

Table A-4: The frequency of occurrence, mean and median of the 7 VOC most frequently detected (using Tenax) out of **flooring adhesive** on day 29 of testing (in $\mu\text{g/m}^3$)

Components	Amount	Max	Min	Mean	Median
Acetic acid	5	370	46	176	160
2-ethyl-1-hexanol	4	23	2	14	15
Methylisothiazolinone (MIT)	3	41	2	24	29
Hexamethylcyclotrisiloxane	2	110	33	72	
Benzothiazole	2	5	4	5	
Ethylene glycol (Ethanediol)	2	34	26	30	
Diethylene glycol	2	130	112	121	

Annex 3

Results of the VOC and odour measurements for all chamber tests

Structure of tables and illustrations in the annex

The following pages contain the test results from all chamber measurements which were performed in the project. The tables and graphics are listed according to the following pattern:

The ordinal numbers “3900, 3901, 3915” etc. are the laboratory sample identification numbers which also represent the principles for the following tables and figures when referring to a product. “Table 3900-1” thus generally contains the concentrations of the VOC determined in the chamber test on the third, eighth, fifteenth and 29th day. If SVOC are also contained in the tables, they are listed below the **thick (red) line** in the lower part of the tables. VVOC are listed above the **dotted (green) line**. These are generally detected by means of the DNPH method. The TVOC values are found in the bottom line of the tables; these are the totals of the individually quantified values. If TVOC values determined using toluene equivalents were also available, these are listed in an extra line and labelled TVOC (toluene equivalent). A chromatogram for the respective product on day 29 follows. The last two figures and the final table are the results of the odour tests. For the building products with the numbers 3974, 4040, 4039 and 4041, there was no analytical measurement. Table A-5 lists which building product was tested by which panel. The evaluation of the data is illustrated in Chapters 4.6.1 and 4.6.2. The abbreviation **n.d.** found in the tables means **not detectable** and applies to substances which could be detected at an early point in the measurements but later fell below the determination limit. Some components could not be qualified exactly, in which case an attempt was made to select a likely compound from the spectrum library based on the fragments, or the components were denoted as **unknown VOC**.

The values of the area-specific air flow rate q ($\text{m}^3\text{m}^{-2}\text{h}^{-1}$) are converted to the respective listed area-specific air flow rate.

The AgBB evaluation scheme is represented in the DIBt reporting mask (2008) for the assessment of flooring emissions which contains the key criteria for this evaluation. The LCI (NIK) values of the 2008 AgBB scheme were used for the calculation of the R value in all tables. In most cases when VVOC values are indicated, only formaldehyde, acetaldehyde and acetone are included.

Retention times (RT's) indicated in the tables are not always constant in different measurements. They reflect, among other things, developments in the laboratory measurement methods.

The internal standards (IS) are listed under the respective chromatograms. the first value is for cyclodecane, the second for D₈-Naphthalene and the third for tribromophenol. The signals of the measured compounds were corrected with the area integral of the internal standard (mostly cyclodecane) for the quantification of VOC samples. Siloxanes originating from the Tenax tubes used are frequently detected in the front part of the chromatogram. The blank concentration values were subtracted from the measured values for quantification purposes. The retention times (RT's) in the chromatograms do not always agree with the data in the tables, as the chromatograms shown were taken on day 28. The tables show the RT's of the first measuring day when higher concentrations are measured; these deviations lead to a minor shift in the RT's.

The panel without a comparative scale is not drawn upon until the ninth sample (building product number 3974), because only the use of a panel with a comparative scale was planned in the project proposal. For the purposes of the experiment, it seemed sensible to employ a panel without the use of the comparative scale. Which building products are evaluated by which panel can be seen in Table A-5.

Table A-5: Building products evaluated using sensory tests

Building product	Number	Evaluation with comparative scale	Evaluation without comparative scale
Carpet 1	3901	yes	no
Carpet 2	3916	yes	no
Carpet 3	3951	yes	no
Carpet 4	3974	yes	yes
Carpet 5	3975	yes	yes
Carpet 6	3976	yes	yes
Carpet 7	4041	yes	yes
Carpet 8	4074	yes	yes
Carpet 9	4141	yes	yes
PVC flooring 1	3900	yes	no
PVC flooring 2	4004	yes	no
PVC flooring 3	4015	yes	yes
PVC flooring 4	4101	yes	yes
PVC flooring 5	4161	yes	yes
PVC flooring 6	4162	no	no

Annex Page 6

PVC flooring 7	4199	yes	yes
Natural rubber flooring 1	3915	yes	no
Natural rubber flooring 2	3948	yes	no
Natural rubber flooring 3	4005	yes	yes
Linoleum flooring 1	4014	yes	yes
Linoleum flooring 2	4039	yes	yes
Prefabricated parquet	4159	yes	yes
Flooring adhesive 1	3950	yes	no
Flooring adhesive 2	3977	yes	yes
Flooring adhesive 3	3978	yes	yes
Flooring adhesive 4	4003	yes	yes
Flooring adhesive 5	4033	yes	yes
Flooring adhesive 6	4040	yes	yes
Flooring adhesive 7	4061	yes	yes
Flooring adhesive 8	4290	yes	yes
Levelling compound	3949	yes	no
Acrylic sealant	4026	yes	no
Screed, flooring adhesive, carpet	4073_74	yes	yes
Screed, flooring adhesive, PVC flooring	4100	yes	yes
PVC flooring and carpet	4200_99	yes	yes
PVC flooring and carpet	4200_01	yes	yes

Building products evaluated in the project.

Textile floorings	9
3901 Carpet 1	9
3916 Carpet 2	12
3951 Carpet 3	15
3974 Carpet 4	18
3975 Carpet 5	20
3976 Carpet 6	23
4041 Carpet 7	26
4074 Carpet 8	28
4141 Carpet 9	31
PVC floorings	34
3900 PVC flooring 1	34
4004 PVC flooring 2	37
4015 PVC flooring 3	39
4101 PVC flooring 4	42
4161 PVC flooring 5	45
4162 PVC flooring 6	48
4199 PVC flooring 7	50
Other floorings	53
3915 Natural rubber flooring 1	53
3948 Natural rubber flooring 2	56
4005 Natural rubber flooring 3	59
4014 Linoleum flooring 1	62
4039 Linoleum flooring 2	65
4159 Prefabricated parquet	67
Flooring adhesives	70
3950 Flooring adhesive 1	70
3977 Flooring adhesive 2	73
3978 Flooring adhesive 3	76
4003 Flooring adhesive 4	79
4033 Flooring adhesive 5	82
4040 Flooring adhesive 6	85
4061 Flooring adhesive 7	87
4290 Flooring adhesive 8	90
Other building products	93
3949 Levelling compound	93
4026 Acrylic sealant	96
Combinations of building products	99
4073_74 Screed (4073), Adhesive (4072), Carpet (4074)	99

4100	Screed (4073), Adhesive (4072), PVC (4101)	102
4200_99	PVC (4199) with Carpet (4200).....	105
4200_01	PVC (4201) with Carpet (4200).....	108

Textile floorings**3901 Carpet 1****Table 3901-1: Concentrations of organic compounds measured in a carpet; 24-litre chamber, $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	10.30	16	n.d.	n.d.	n.d.
4-Phenylcyclohexene	4994-16-5	19.00	48	28	18	6
TVOC			64	28	18	6

Table 3901-2: Summarised AgBB evaluation of a carpet according to DIBt reporting mask

Product: 3901	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	64	$0 \leq 10$	≤ 0.3	28	≤ 0.5	6	≤ 1.0
$\leq \text{SVOC} (\text{C}_{16} - \text{C}_{22})$	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.069	none	≤ 0.5	0.021	≤ 0.5	0.004	≤ 1
$\leq \text{VOC or NIK}$	0	none	≤ 0.05	0	≤ 0.05	0	≤ 0.1
$\leq \text{Carcinogenic}$	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

Abundance

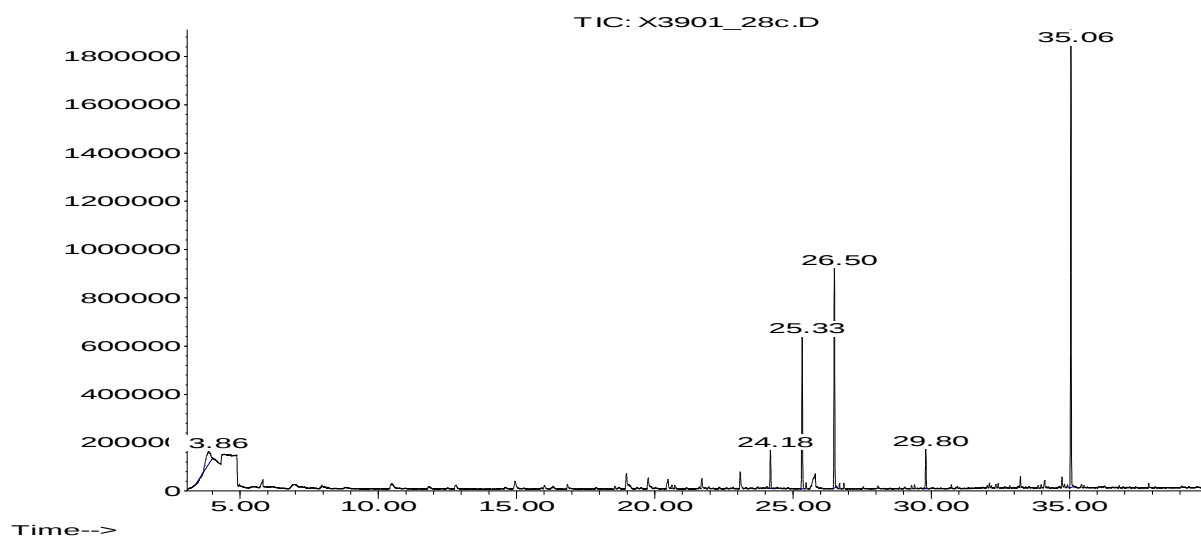
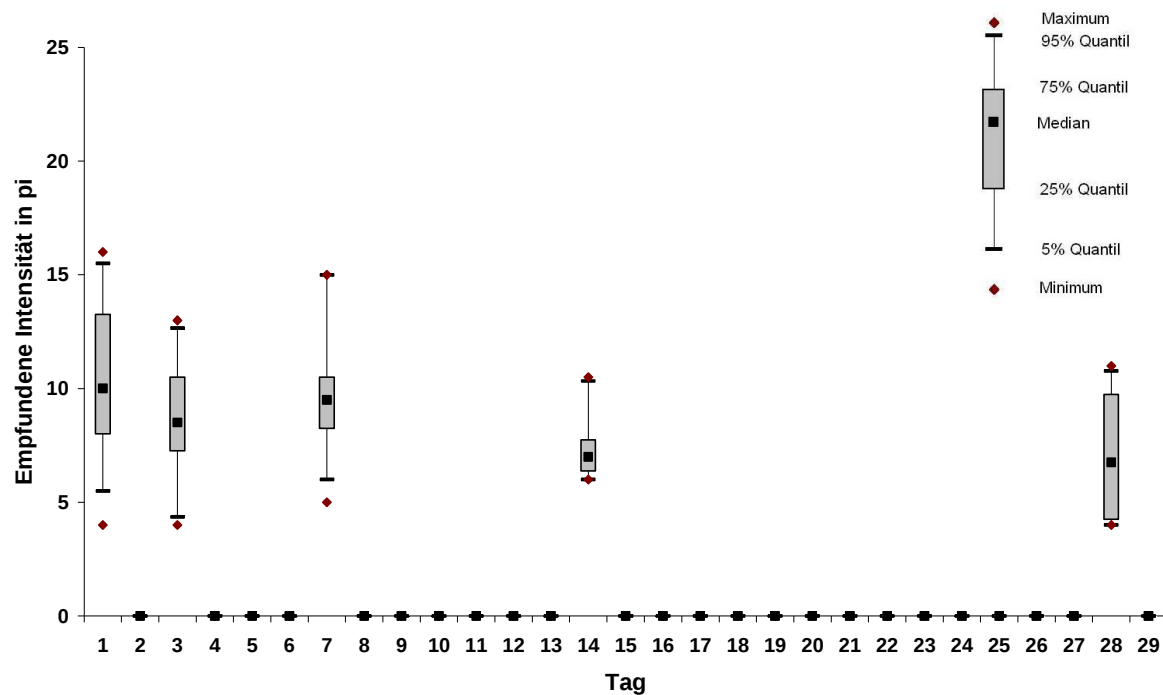
**Figure 3901-1: GC/MS chromatogram from day 29 of emissions testing on a carpet. (Peaks 25.33; 26.50; 35.06 IS)**

Table 3901-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	11	10.4	3.7	-2.3	1.7
3	8	8.6	3.1	-1.5	0.7
7	11	9.9	3.0	-1.8	1.5
14	9	8.0	2.2	-0.4	1.8
28	10	7.1	2.9	-1.4	1.2

**Figure 3901-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)**

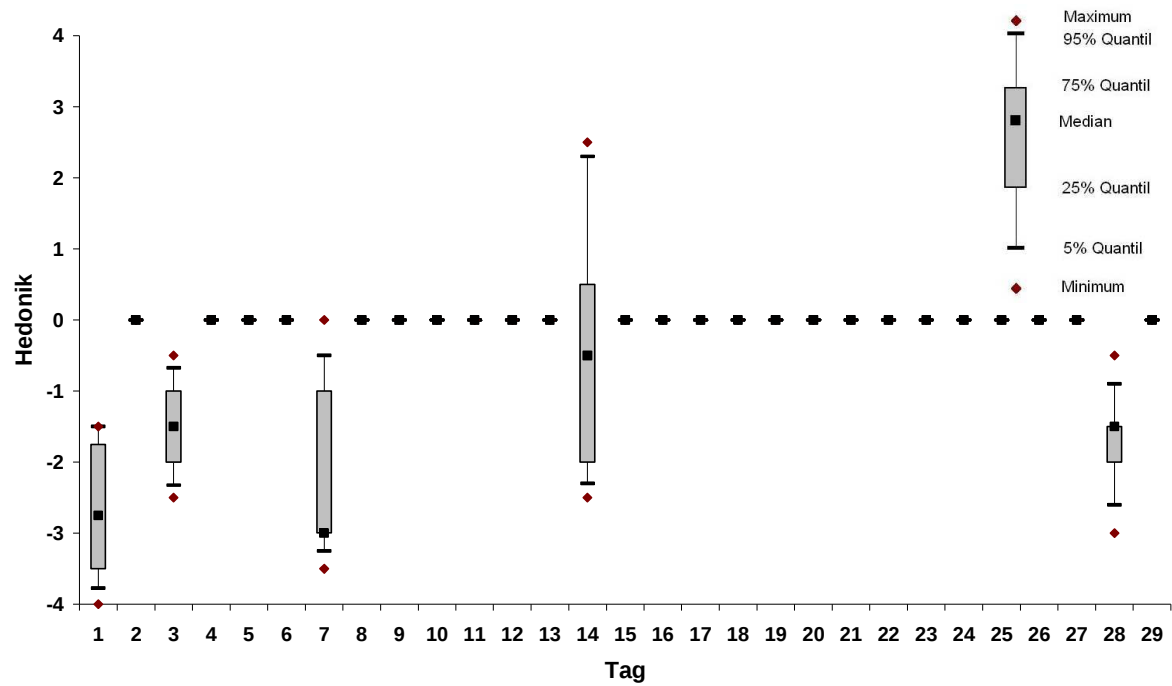


Figure 3901-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

3916 Carpet 2

Table 3916-1: Concentrations of organic compounds measured in a carpet; 24-litre chamber, $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Ethylene glycol (Ethanediol)	107-21-1	8.9	540	160	50	17
Acetic acid	64-19-7	10.3	84	26	10	3
Hexamethylcyclotrisiloxane		12.8	7	6	6	3
4-Phenylcyclohexene	4994-16-5	19.0	2	1	1	n.d.
Benzothiazole	95-16-9	27.5	2	2	2	2
TVOC			635	195	69	25

Table 3916-2: Summarised AgBB evaluation of a carpet according to DIBt reporting mask

Product: 3916	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	631	$0.6 \leq 10$	!! ≤ 0.3	192	≤ 0.5	17	≤ 1.0
$\leq \text{SVOC} (\text{C}_{16} - \text{C}_{22})$	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	2.245	none	!! ≤ 0.5	0.667	!! ≤ 0.5	0.065	≤ 1
$\leq \text{VOC or NIK}$	7	none	≤ 0.05	6	≤ 0.05	0	≤ 0.1
$\leq \text{Carcinogenic}$	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

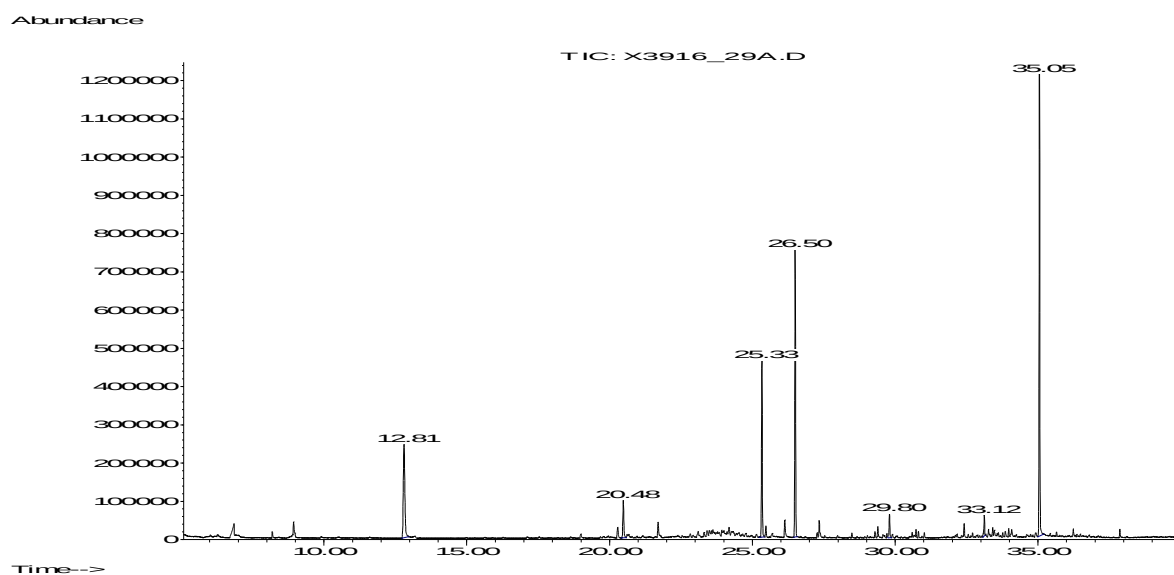
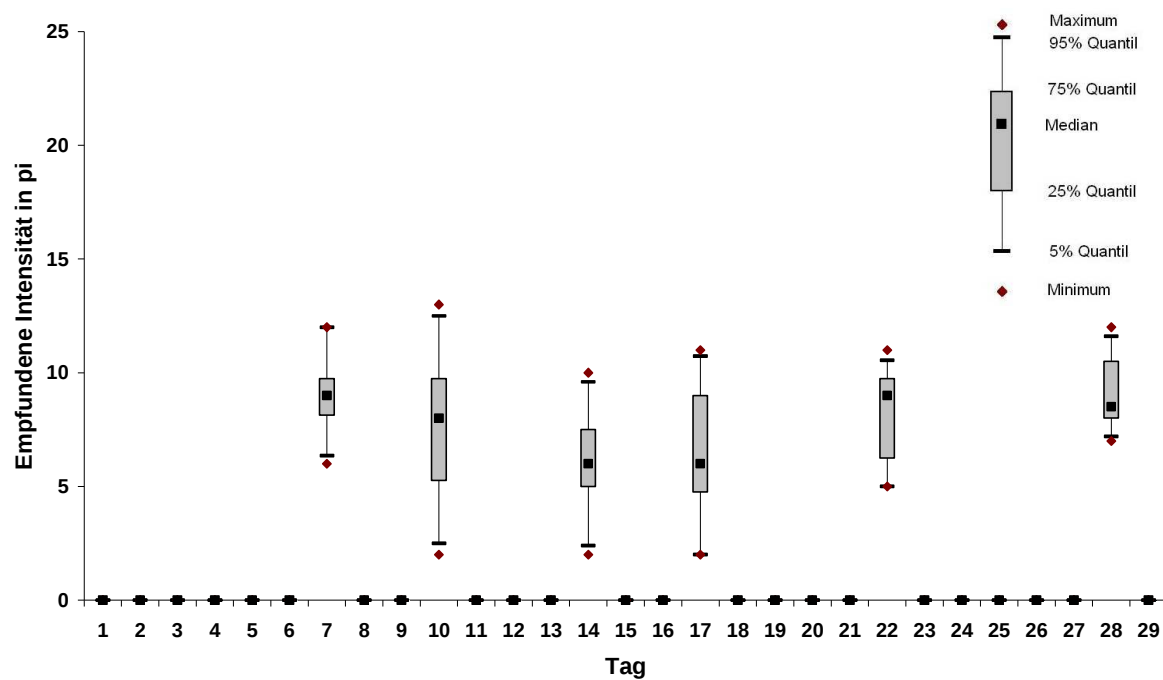


Figure 3916-1: GC/MS chromatogram from day 29 of emissions testing on a carpet. (Peaks 25.33; 26.50; 35.06 IS)

Table 3916-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
7	9	8.4	2.8	-2.4	0.8
14	9	6.2	2.6	-1.1	1.1
28	10	10.1	3.2	-1.8	1.4

**Figure 3916-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)**

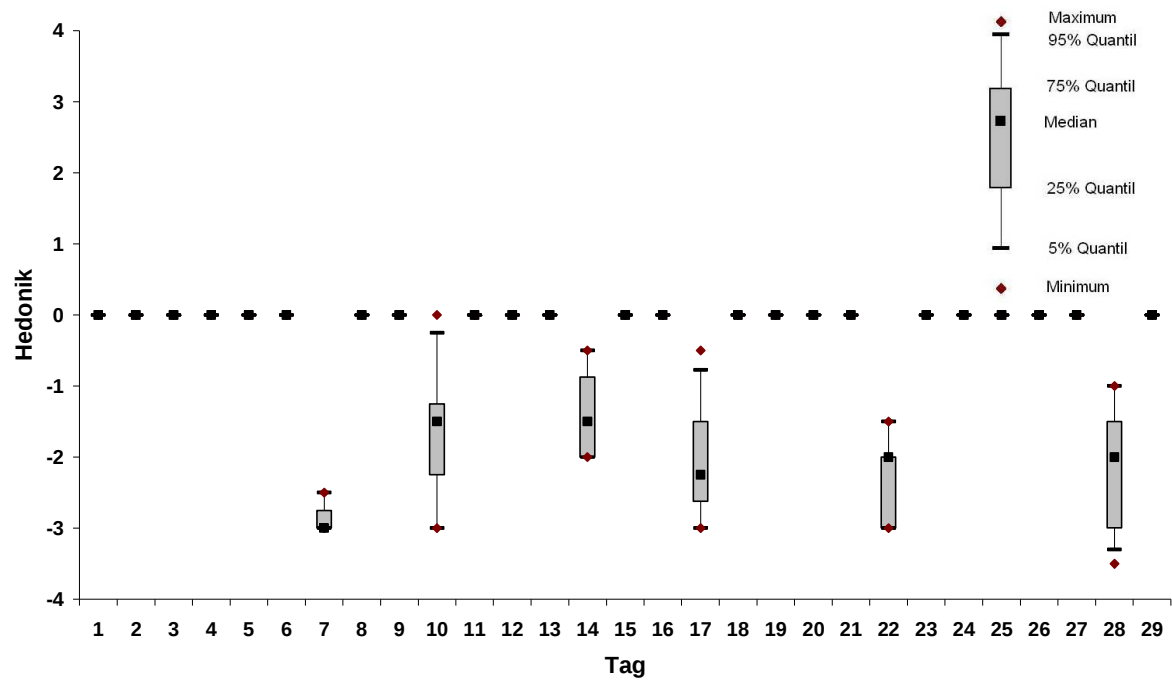


Figure 3916-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

3951 Carpet 3**Table 3951-1: Concentrations of organic compounds measured in a carpet; 24-litre chamber, $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
n-buthylether	142-96-1	14.60	8	8	3	2
2-Ethyl-1-Hexanol	104-76-7	17.92	2	2	1	1
unknown		16.60	4	4	1	1
unknown		19.30	1	n.d.	n.d.	n.d.
unknown		22.10	3	2	2	2
unknown		23.70	8	7	3	3
TVOC			26	23	10	9

Table 3951-2: Summarised AgBB evaluation of a carpet according to DIBt reporting mask

Product: 3951	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	16	$0 \leq 10$	≤ 0.3	15	≤ 0.5	0	≤ 1.0
$\leq \text{SVOC} (\text{C}_{16} - \text{C}_{22})$	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.000	none	≤ 0.5	0.000	≤ 0.5	0.000	≤ 1
$\leq \text{VOC or NIK}$	8	none	≤ 0.05	7	≤ 0.05	0	≤ 0.1
$\leq \text{Carcinogenic}$	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

Abundance

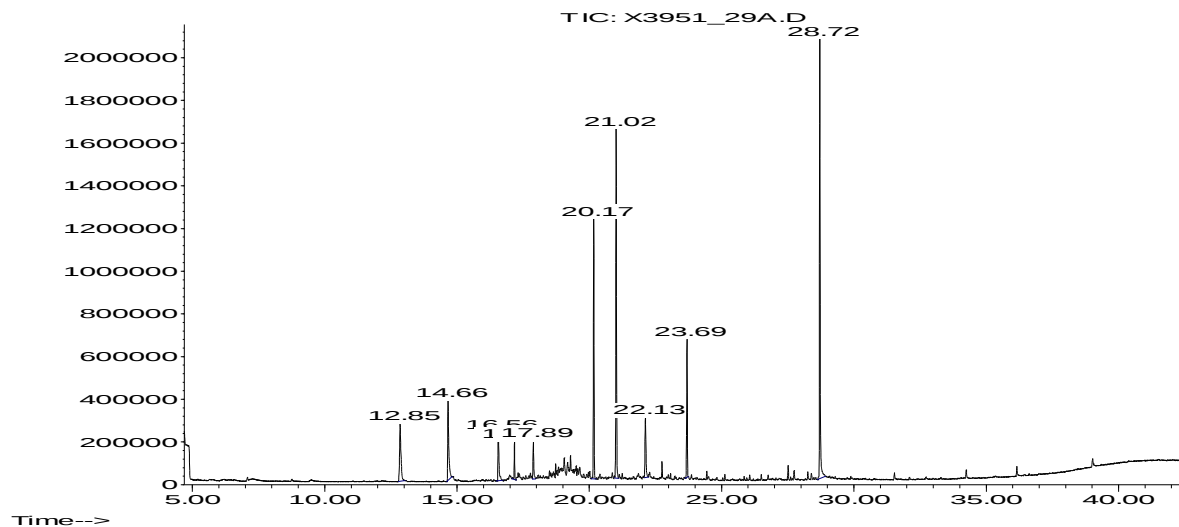
**Figure 3951-1: GC/MS chromatogram from day 29 of emissions testing on a carpet. (Peaks 20.17; 21.02; 28.71 IS)**

Table 3951-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	10	14.2	3.6	-2.2	2.0
7	11	12.7	2.8	-2.5	1.4
14	10	11.6	2.3	-2.3	1.7
28	10	8.2	3.9	-1.1	1.5

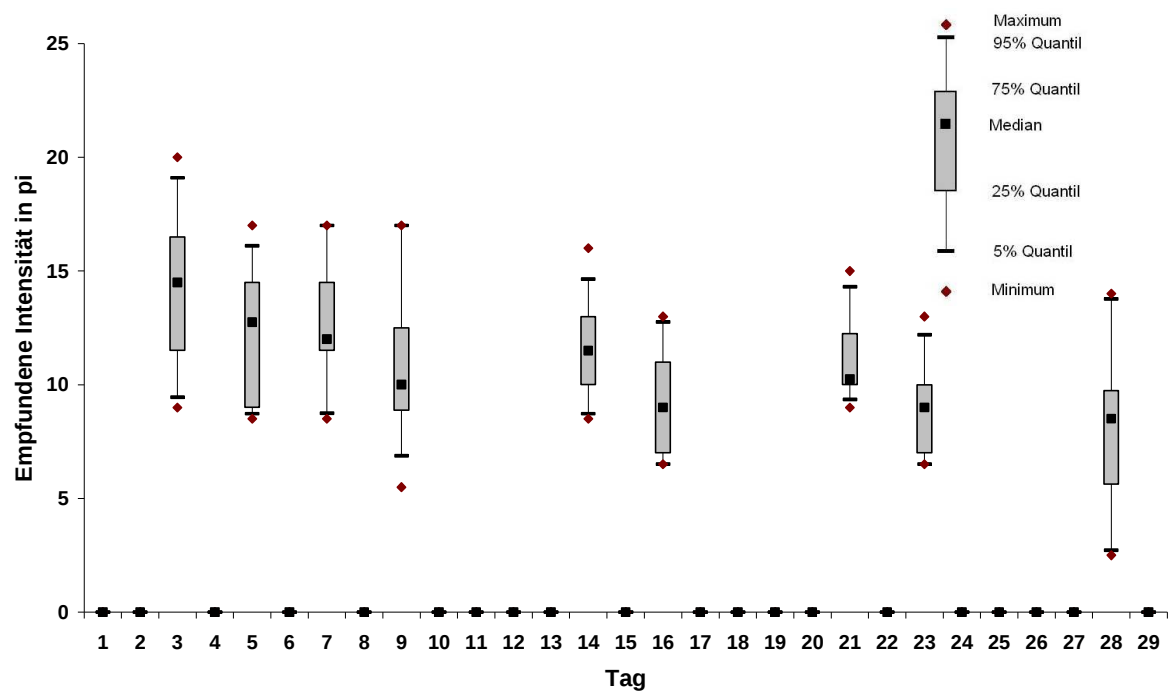
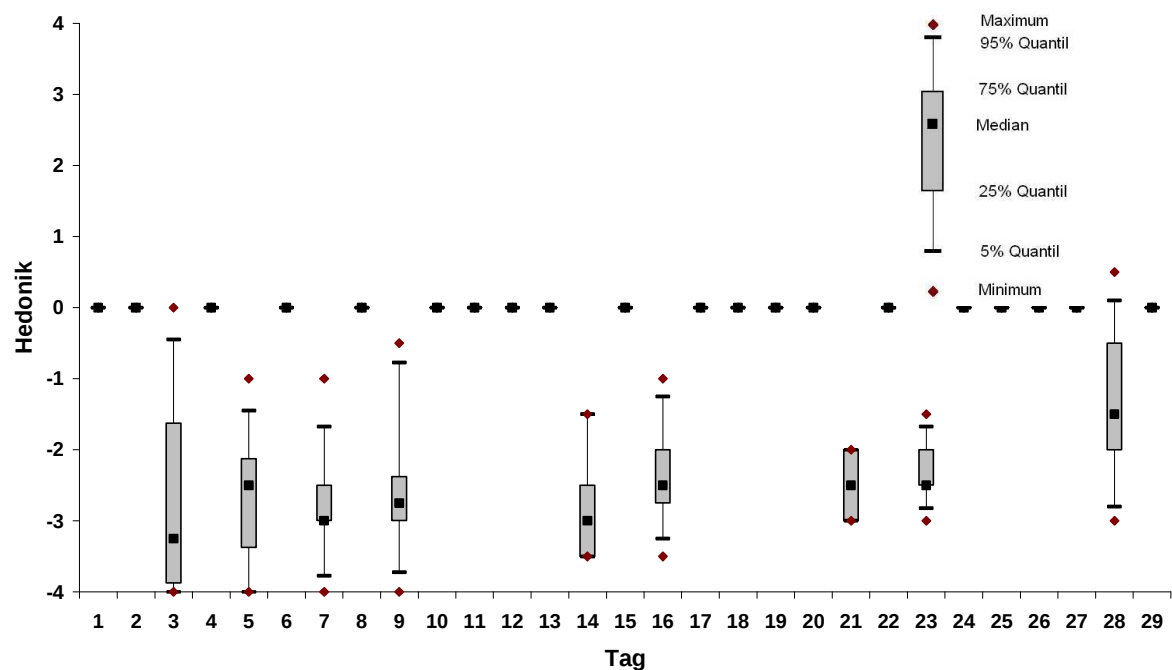
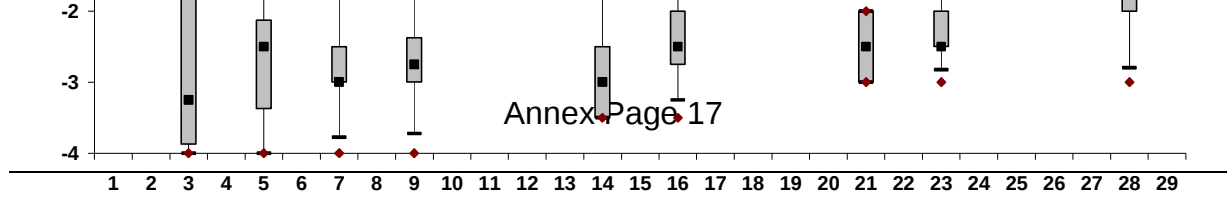


Figure 3951-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)





3974 Carpet 4

Table 3974-1: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	8	12	4.3	-1.4	2.0
3	8	6.6	2.2	-0.8	1.0
8	8	4	1.8	-0.6	1.2
15	7	4.5	2.8	-0.1	1.5
29	8	4.8	3.0	0.2	1.9

Table 3974-2: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	17	-0.4	6.1	-0.4	2.0
10	16	1.4	4.6	0.0	1.7
17	9	3.0	4.6	0.5	1.5
31	17	4.9	4.6	0.4	2.0

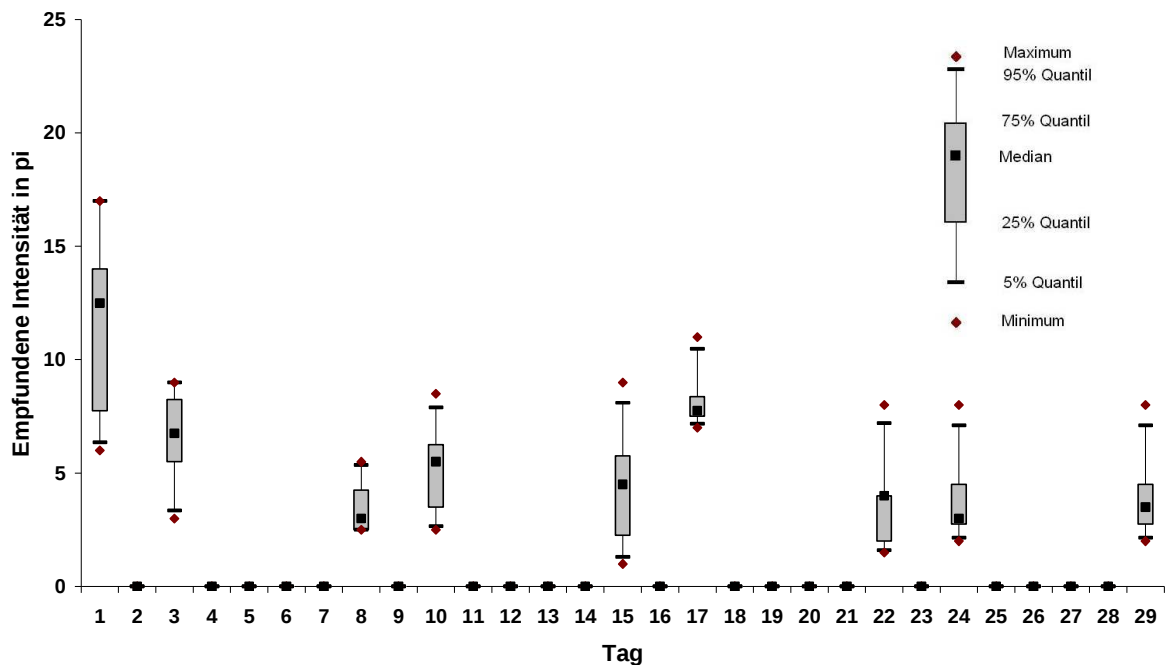


Figure 3974-1: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

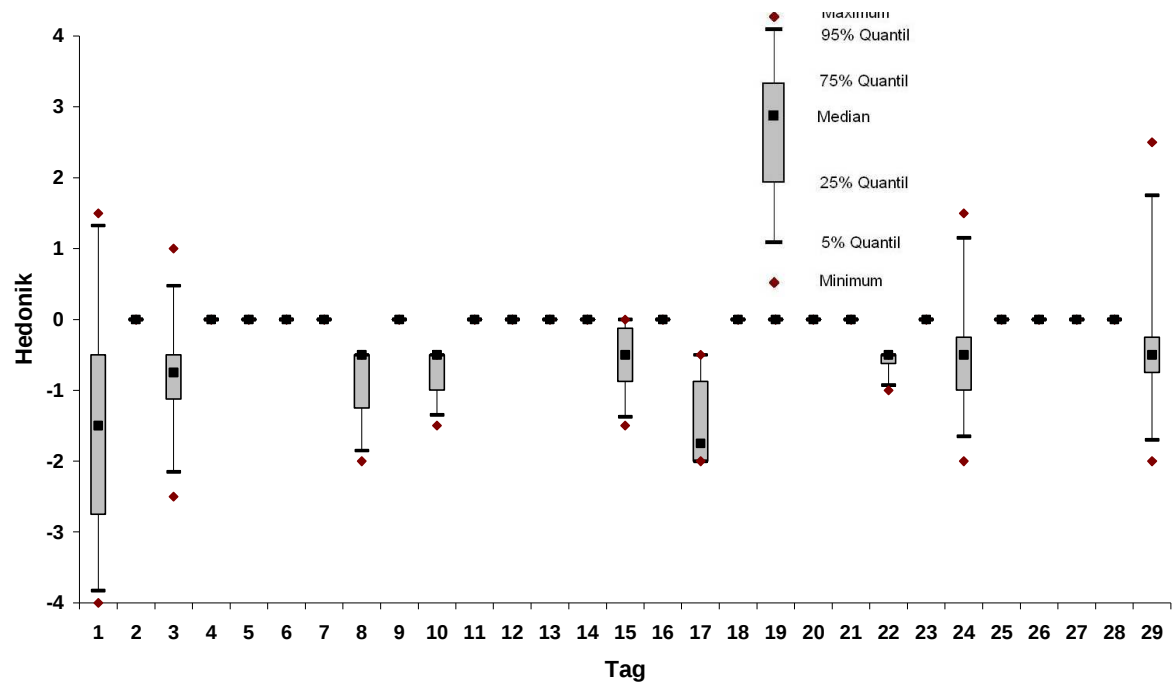


Figure 3974-2: Change in hedonics over the testing period (CLIMPAQ-HRI)

3975 Carpet 5**Table 3975-1: Concentrations of organic compounds measured in a carpet; CLIMPAQ-HRI, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.50	25	31	27	26
Propylene glycol	57-55-6	10.55	6	n.d.	n.d.	n.d.
2-Ethyl-1-hexanol	104-76-7	17.80	9	14	13	n.d.
4-Phenylcyclohexene	4994-16-5	23.70	210	200	290	61
TVOC			250	240	330	86

Table 3975-2: Summarised AgBB evaluation of a carpet according to DIBt reporting mask

Product: 3975	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	252	$0.3 \leq 10$	≤ 0.3	245	≤ 0.5	87	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.240	none	≤ 0.5	0.229	≤ 0.5	0.099	≤ 1
$\leq$ VOC or NIK	0	none	≤ 0.05	0	≤ 0.05	0	≤ 0.1
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

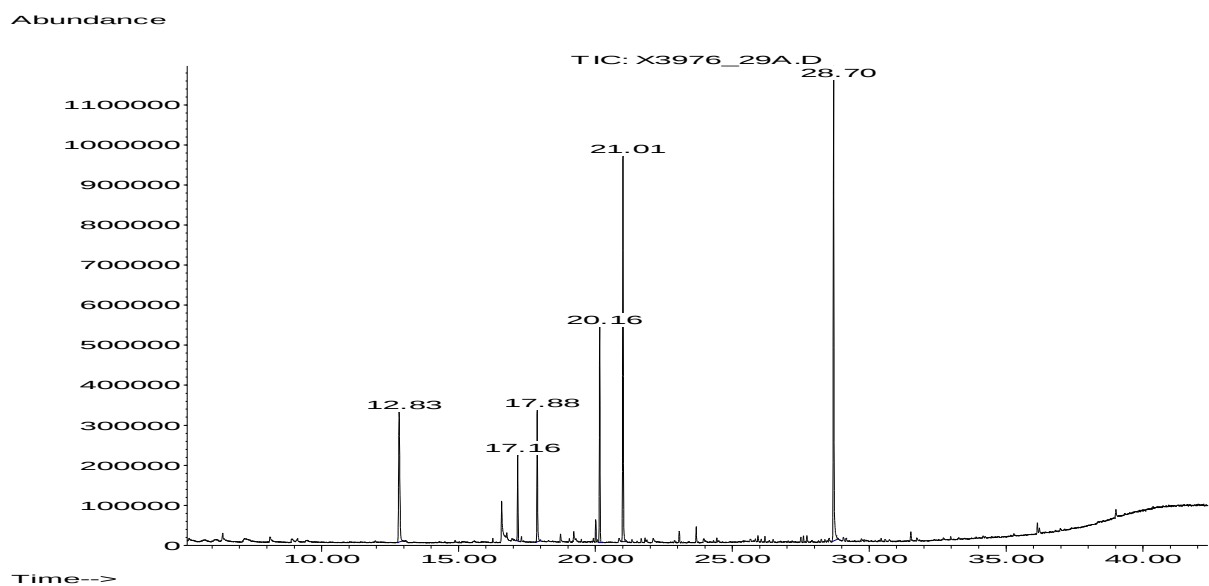
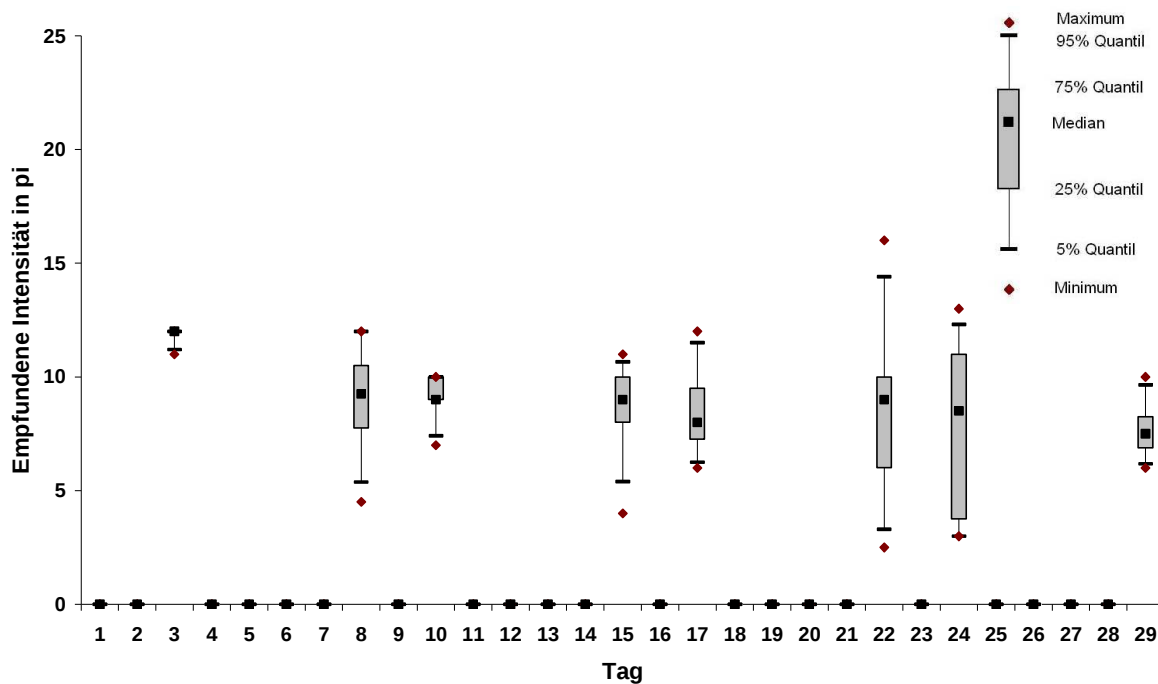
**Figure 3975-1: GC/MS chromatogram from day 29 of emissions testing on a carpet. (Peaks 20.17; 21.02; 28.71 IS)**

Table 3975-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	6	11.3	1.4	-1.8	0.7
8	8	9	2.5	-1.7	1.3
15	9	8.1	2.6	-1.6	0.7
29	9	8.6	3.0	-1.1	1.1

Table 3975-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	17	-4.4	5.8	-1.8	2.1
10	20	-1.8	5.1	-1.1	1.9
17	20	-0.7	6.5	-0.4	2.4
31	25	-0.6	5.8	-0.7	1.9

**Figure 3975-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)**

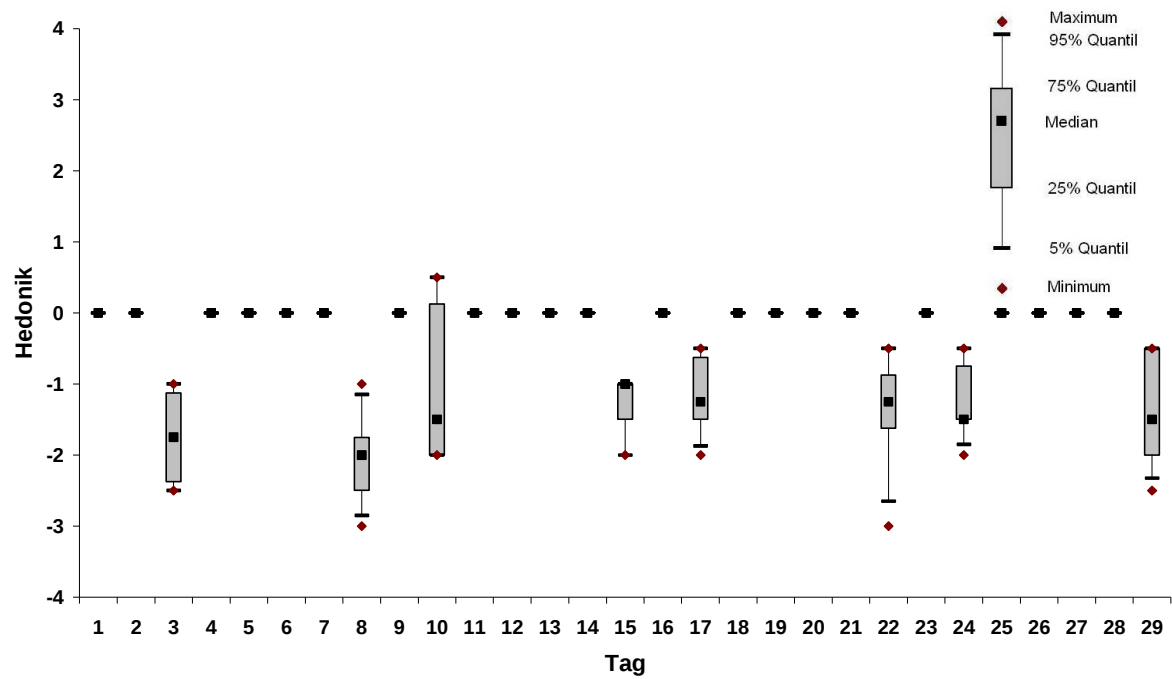


Figure 3975-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

3976 Carpet 6**Table 3976-1: Concentrations of organic compounds measured in a carpet; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.50	50	18	22	13
Diethylene glycol	111-46-6	16.70	56	44	60	47
2-Ethyl-1-hexanol	104-76-7	17.80	74	22	6	9
4-Phenylcyclohexene	4994-16-5	23.70	650	515	150	61
TVOC			830	600	240	130

Table 3976-2: Summarised AgBB evaluation of a carpet according to DIBt reporting mask

Product: 3976	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	827	$0.8 \leq 10$	!! ≤ 0.3	599	!! ≤ 0.5	130	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.792	none	!! ≤ 0.5	0.552	!! ≤ 0.5	0.188	≤ 1
$\leq$ VOC or NIK	8	none	≤ 0.05	7	≤ 0.05	0	≤ 0.1
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

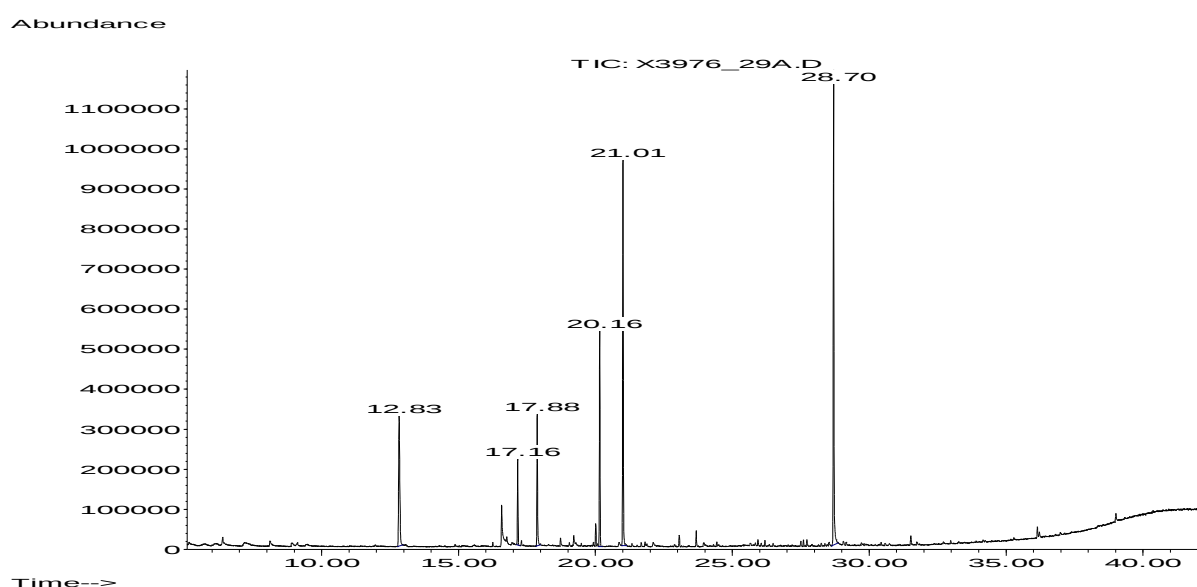
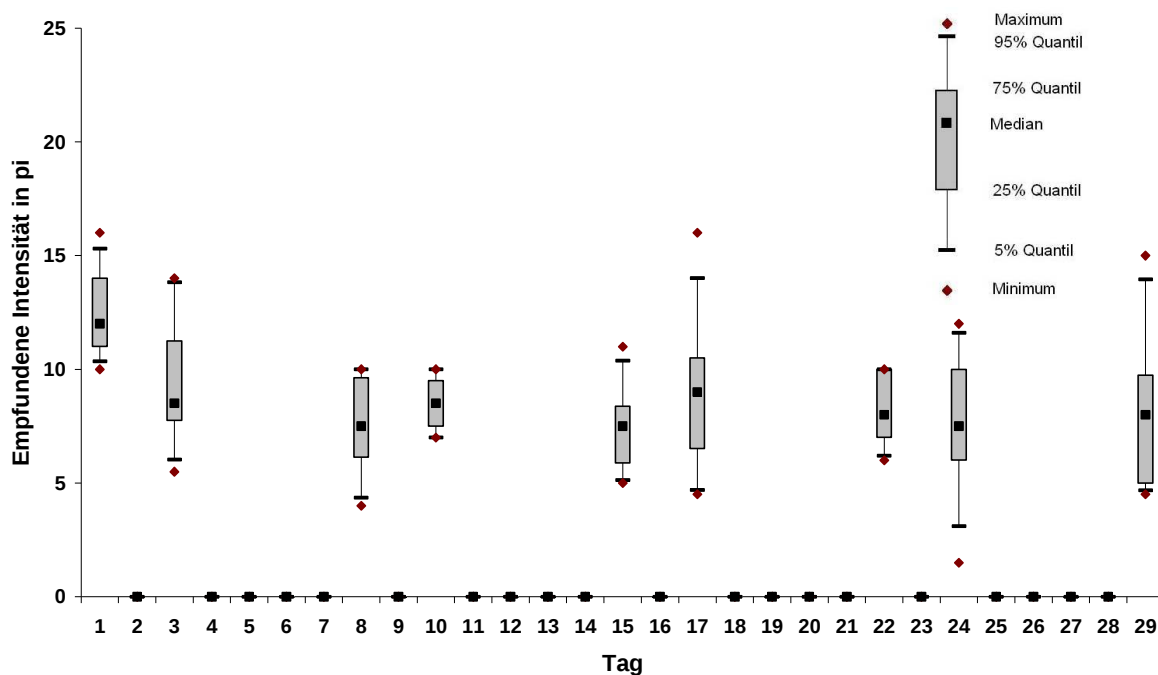
**Figure 3976-1: GC/MS chromatogram from day 29 of emissions testing on a carpet. (Peaks 20.17; 21.02; 28.71 IS)**

Table 3976-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	8	12.5	2.1	-2.3	0.8
3	8	9.4	3.0	-1.4	1.6
8	8	7.5	2.3	-1.1	1.4
15	7	8.7	3.8	-0.9	1.1
29	8	8.3	3.7	-1.4	1.2

Table 3976-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	17	-2.3	5.7	-0.7	1.9
10	14	-3.2	4.9	-0.8	2.2
17	12	-2.0	5.2	-0.9	1.4
31	17	-0.6	4.9	-1.0	1.4

**Figure 3976-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)**

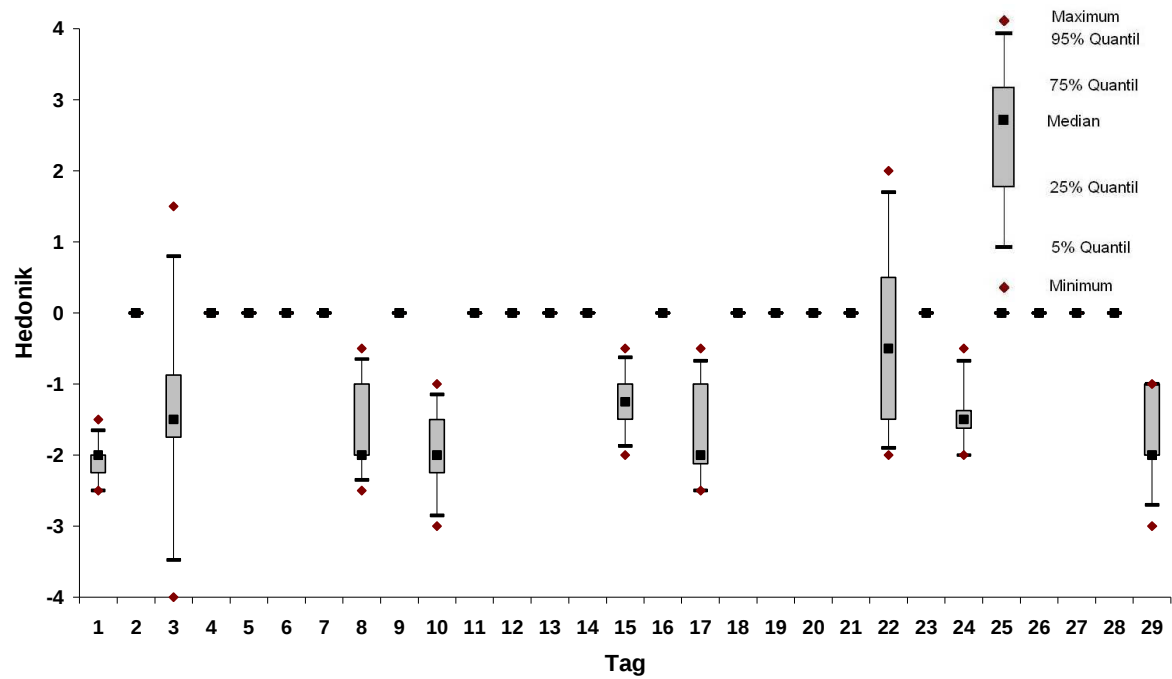


Figure 3976-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4041 Carpet 7

Table 4041-1: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	9	11.8	2.0	-2.0	0.9
8	11	9.3	3.5	-1.3	1.2
15	10	12.0	3.4	-2.1	1.0
29	11	6.8	3.7	-0.5	1.5

Table 4041-2: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	20	-1.9	5.5	-0.8	2.1
9	20	-1.8	6.4	-1.0	2.2
16	16	-2.7	4.6	-0.9	1.9
30	13	-4.7	4.8	-1.6	1.9

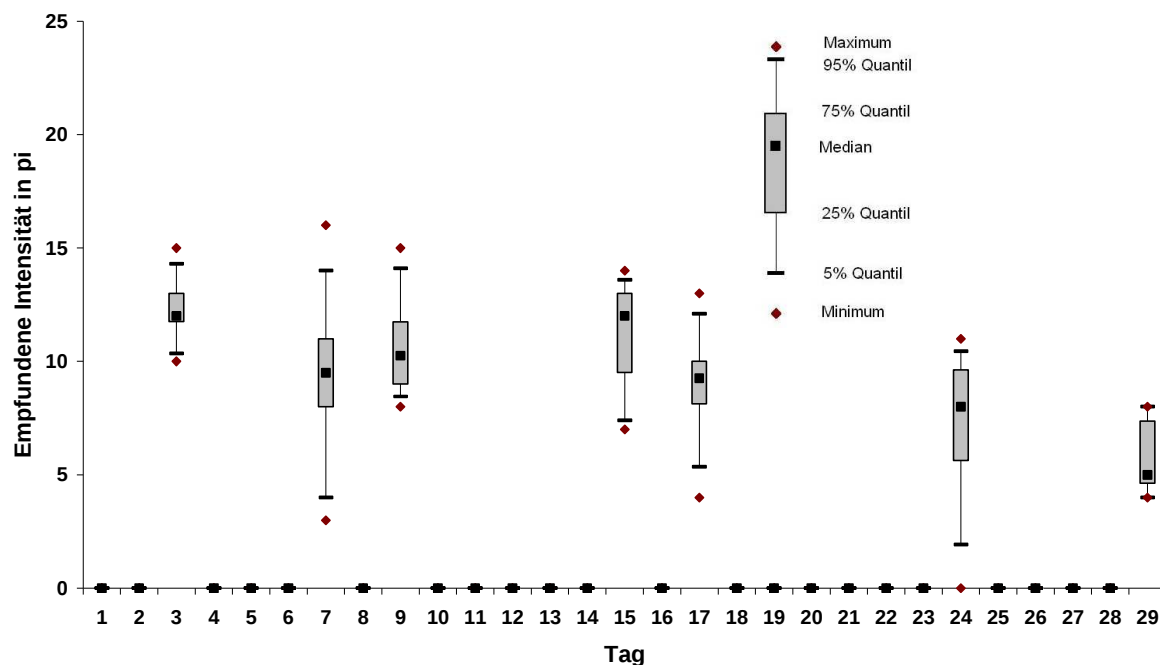
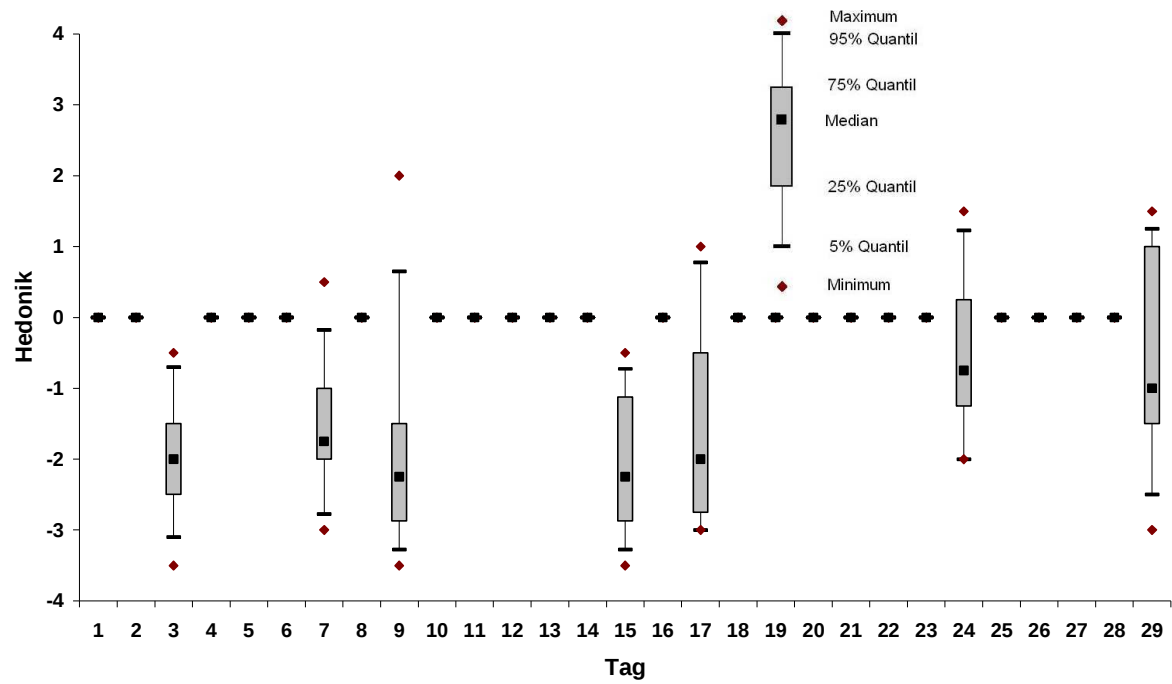


Figure 4041-1: Change in perceived intensity over the testing period (CLIMPAQ-HRI)



4074 Carpet 8**Table 4074-1: Concentrations of organic compounds measured in a carpet; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Diethylene glycol	111-46-6	16.70	58	n.d.	29	14
2-Ethyl-1-hexanol	104-76-7	17.80	36	n.d.	n.d.	n.d.
Methylisothiazolinone (MIT)	2682-20-4	20.63	41	48	23	16
Total unknown		21	290	83	75	13
4-Phenylcyclohexene	4994-16-5	23.70	19	9	4	1
TVOC			440	140	130	40

Table 4074-2: Summarised AgBB evaluation of a carpet according to DIBt reporting mask

Product: 4074	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	441	0.4 ≤ 10	!! ≤ 0.3	139	≤ 0.5	43	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.584	none	!! ≤ 0.5	0.485	≤ 0.5	0.190	≤ 1
≤ VOC or NIK	288	none	!! ≤ 0.05	83	!! ≤ 0.05	13	≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

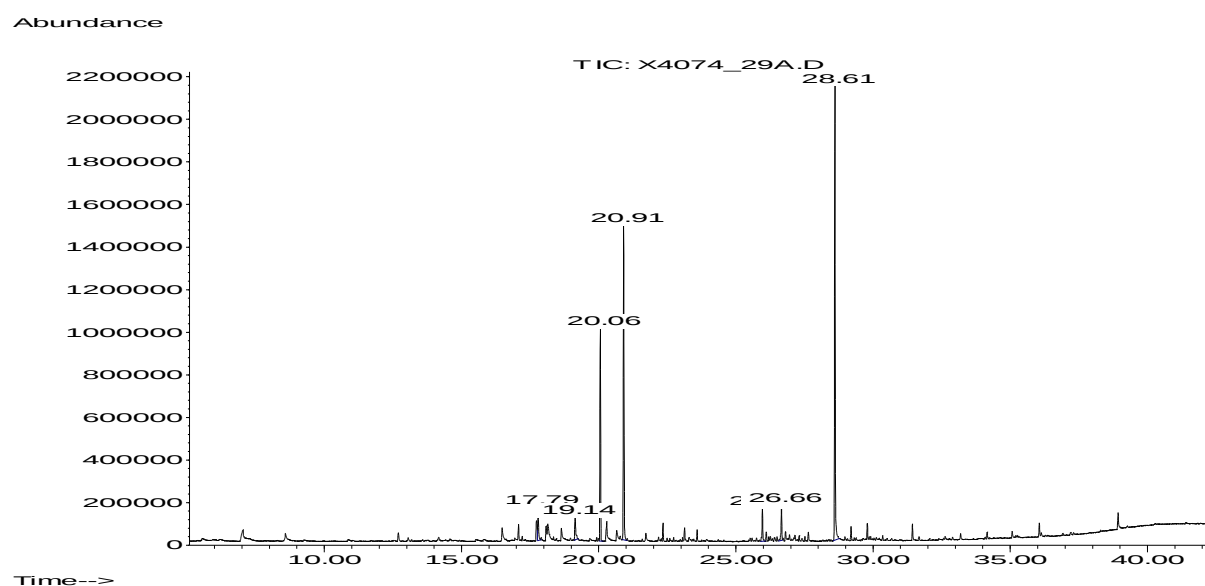


Figure 4074-1: GC/MS chromatogram from day 29 of emissions testing on a carpet.
(Peaks 20.0; 20.9; 28.6 IS)

Table 4074-3: Summarised data from odour testing – panel with comparative scale
(CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	11	10.6	3.2	-0.8	1.6
3	12	9.0	3.5	-0.6	1.4
8	13	9.3	2.9	-0.7	1.6
15	12	7.8	3.2	-1.0	1.5
29	7	5.6	1.0	-0.2	1.8

Table 4074-4: Summarised data from odour testing – panel without comparative scale
(CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	27	-3.7	4.9	-1.4	1.9
9	29	-1.4	5.1	-1.1	1.4
16	27	-1.9	4.9	-1.3	1.4
30	19	0.7	4.3	-0.5	1.3

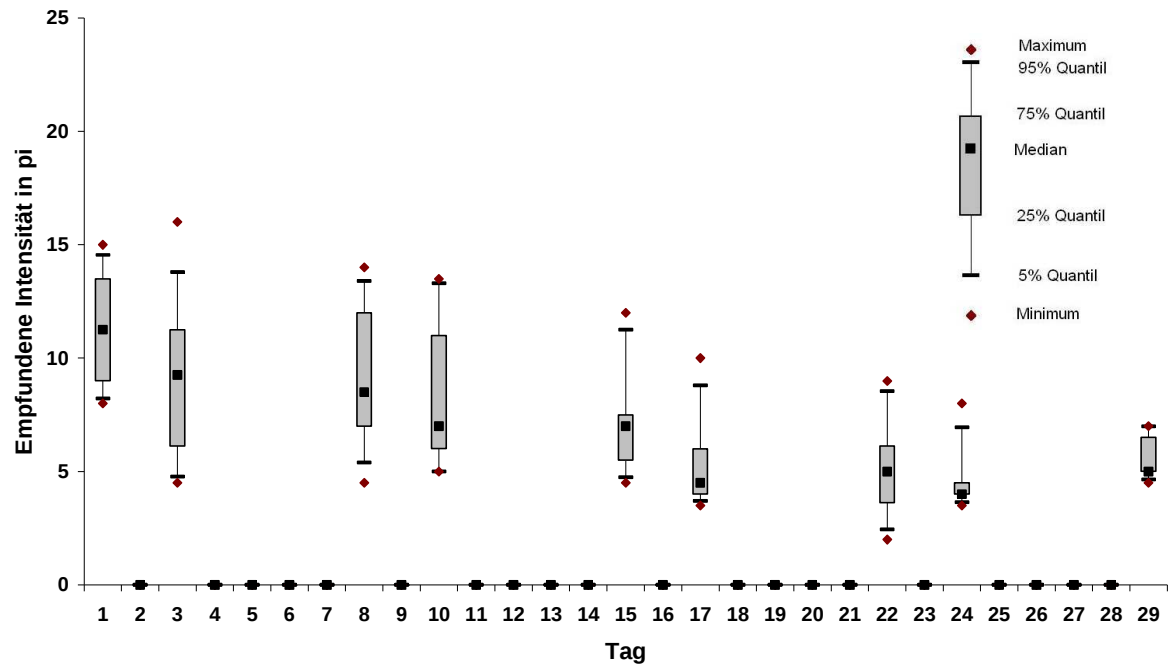


Figure 4074-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

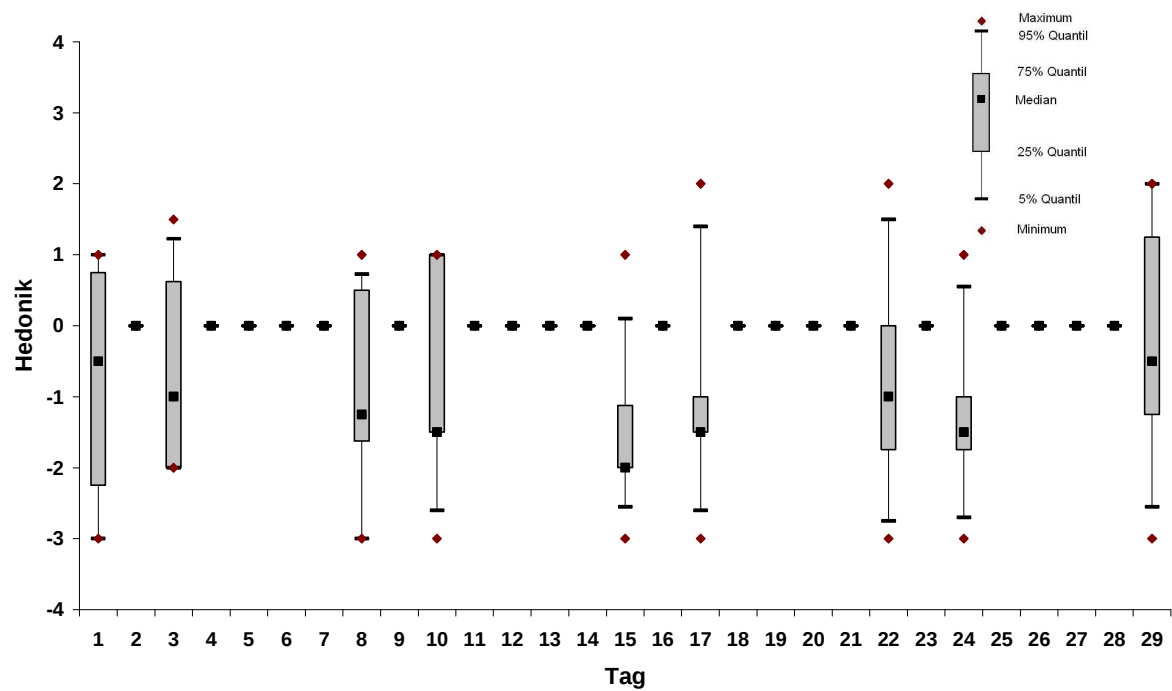


Figure 4074-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4141 Carpet 9**Table 4141-1: Concentrations of organic compounds measured in a carpet; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.59	16	16	9	18
Hexamethylcyclotrisiloxane	541-05-9	12.8	46	67	55	90
Benzaldehyde	100-52-7	16.47	18	21	11	11
unknown	0	17	37	14	11	18
2-Ethyl-1-hexanol	104-76-7	17.8	16	11	11	n.d.
Acetophenone	98-86-2	18.6	14	10	7	n.d.
4-Phenylcyclohexene	4994-16-5	23.56	520	420	270	300
TVOC			670	560	370	440

Table 4141-2: Summarised AgBB evaluation of a carpet according to DIBt reporting mask

Product: 4141	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	666	0.6 ≤ 10	!! ≤ 0.3	554	≤ 0.5	441	≤ 1.0
$\leq \text{SVOC} (\text{C}_{16} - \text{C}_{22})$	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.665	none	!! ≤ 0.5	0.604	≤ 0.5	0.392	≤ 1
$\leq \text{VOC or NIK}$	83	none	!! ≤ 0.05	81	!! ≤ 0.05	108	≤ 0.1
$\leq \text{Carcinogenic}$	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

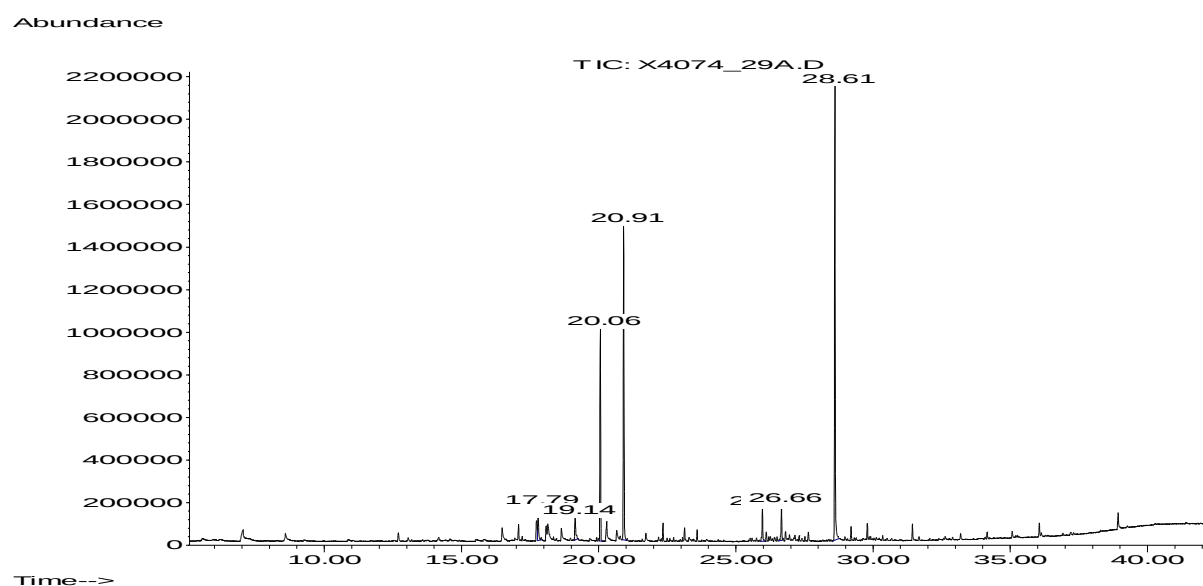


Figure 4141-1: GC/MS chromatogram from day 29 of emissions testing on a carpet.
(Peaks 20.0; 20.9; 28.6 IS)

Table 4141-3: Summarised data from odour testing – panel with comparative scale
(CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	10	8.1	2.5	-0.9	1.5
3	9	6.2	2.5	-1.2	1.7
8	10	7.6	1.8	-0.8	1.2
15	13	7.9	2.2	-1.7	1.2
29	9	7.6	2.6	-0.8	1.3

Table 4141-4: Summarised data from odour testing – panel without comparative scale
(CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	20	-3.6	3.8	-1.7	1.1
9	15	-5.7	3.4	-2.2	1.3
16	17	-2.9	4.5	-1.6	1.3
30	23	-3.5	4.3	-1.8	1.3

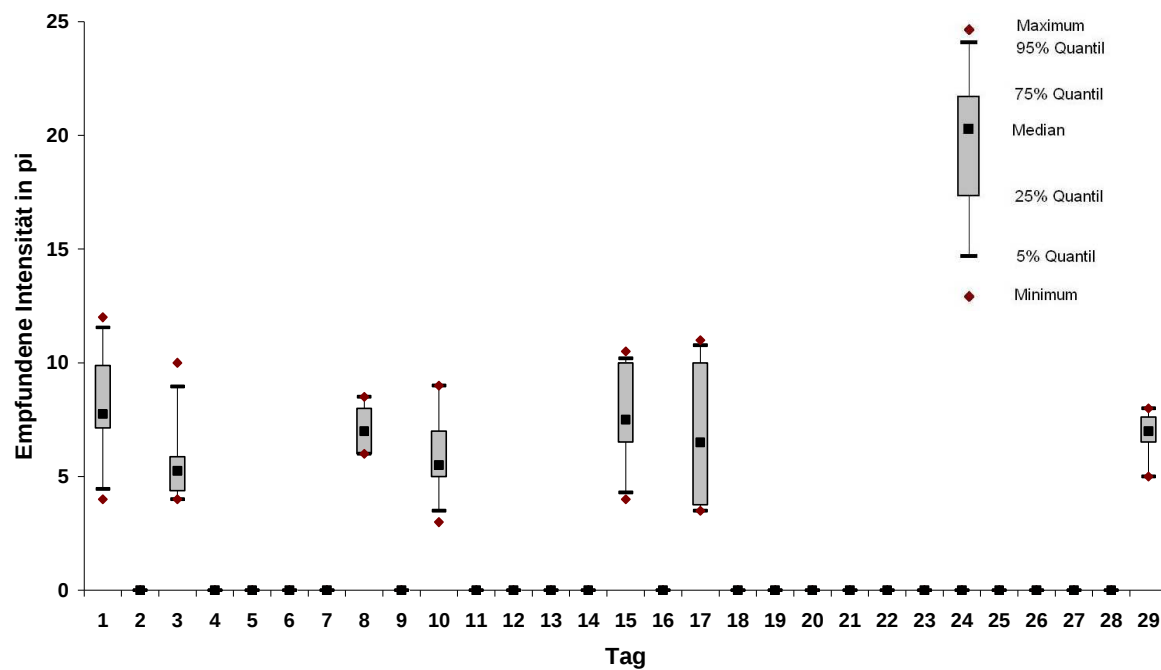


Figure 4141-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

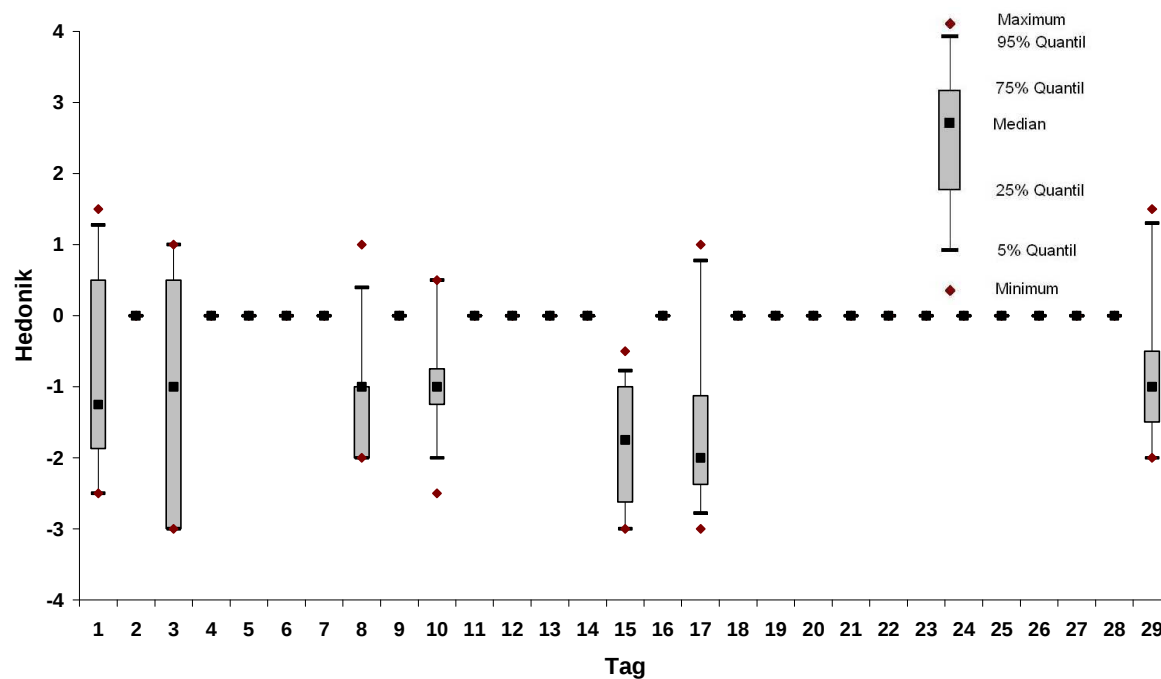


Figure 4141-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

PVC floorings**3900 PVC flooring 1****Table 3900-1: Concentrations of organic compounds measured in a PVC flooring; 24-litre chamber, $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
n-Decane	124-18-5	14.40	170	80	50	10
n-Undecane	1120-21-4	15.90	370	200	190	65
Unknown* (Berg) 14.5 - 18		14-18	2100	1200	1150	610
Unknown* (Berg) 19 - 21		19-21	1700	1100	1200	840
Unknown*		21.60	590	410	420	310
1-Hexadecene			n.d.	n.d.	98	71
TVOC			4900	3000	3100	1900

* Generalised name, no exact specification possible

Table 3900-2: Summarised AgBB evaluation of a PVC flooring according to DIBt reporting mask

Product: 3900	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	4926	5 ≤ 10	!! ≤ 0.3	2997	!! ≤ 0.5	1821	!! ≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.344	none	≤ 0.5	0.200	≤ 0.5	0.109	!! ≤ 1
≤ VOC or NIK	585	none	!! ≤ 0.05	412	!! ≤ 0.05	307	!! ≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

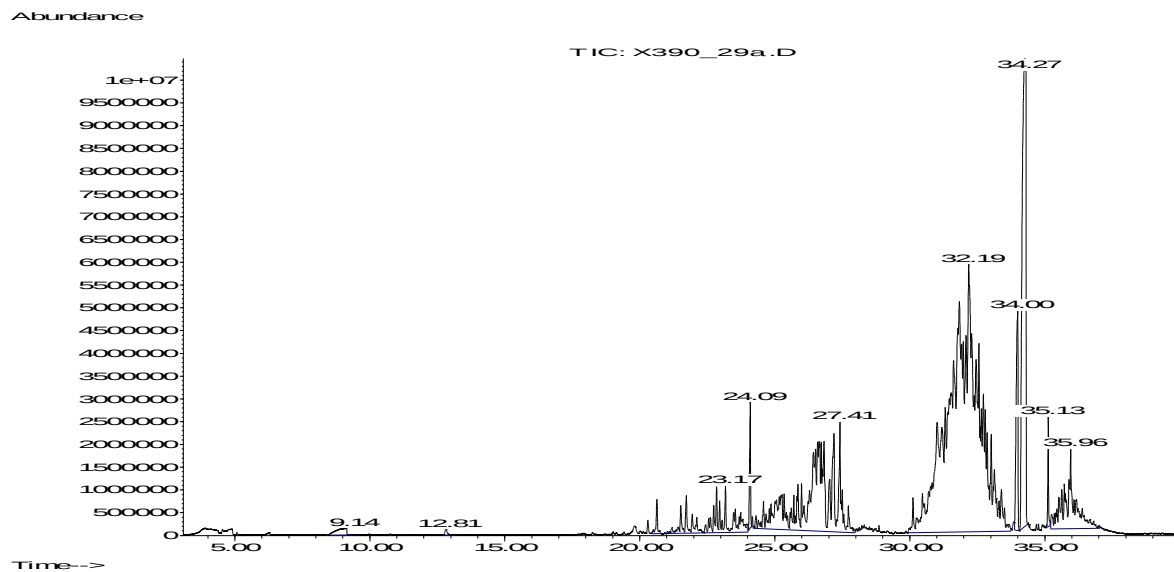


Figure 3900-1: GC/MS chromatogram from day 29 of emissions testing on a PVC flooring. (Peaks 25.33; 26.50;35.06 IS)

Table 3900-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	11	10.6	3.1	-1.0	1.9
3	8	8.8	2.2	-1.6	1.2
7	11	8.8	3.7	-1.0	1.5
14	9	8.5	3.3	-2.2	1.0
28	10	8.7	3.6	-1.6	0.9

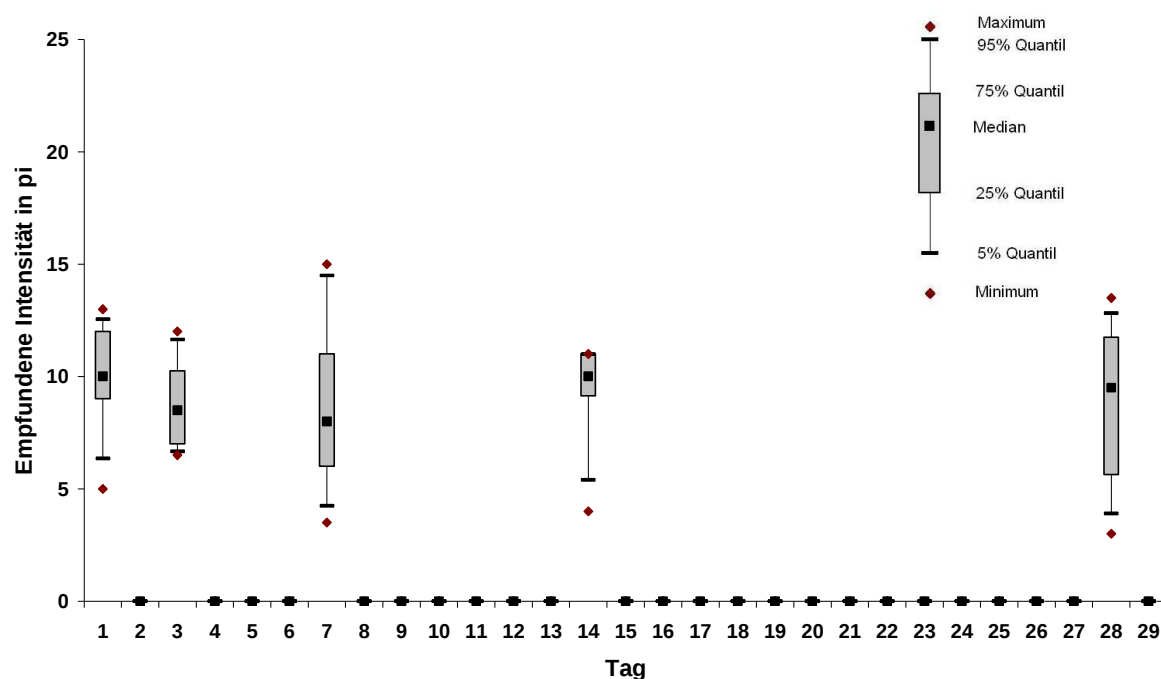


Figure 3900-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

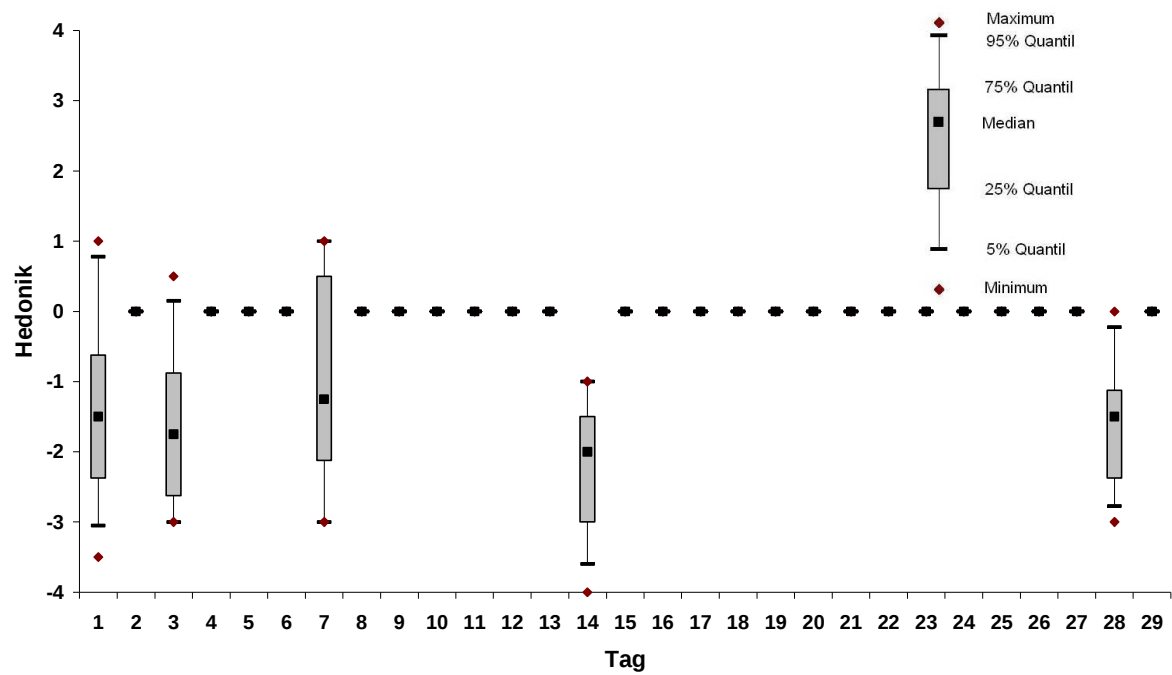


Figure 3900-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4004 PVC flooring 2

Table 4004-1: Concentrations of organic compounds measured in a PVC flooring; CLIMPAQ-HRI, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 13 [$\mu\text{g}/\text{m}^3$]	Day 20 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.4	22	22
Propylene glycol	57-55-6	10.70	12	11
Hexamethylcyclotrisiloxane	541-05-9	12.80	19	21
Di-iso-butyl phthalate	84-69-5	31.54	190	120
Total unknown VOC		26-28	67	30
Total unknown SVOC		28-32	76	34
TVOC			120	84

Due to insufficient data no AgBB evaluation possible

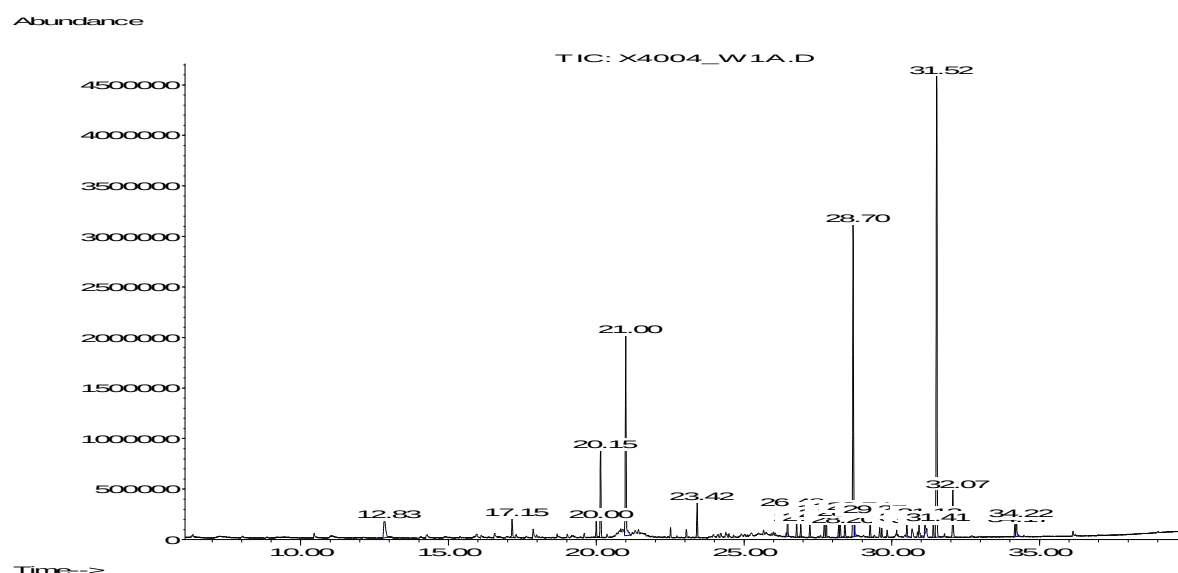
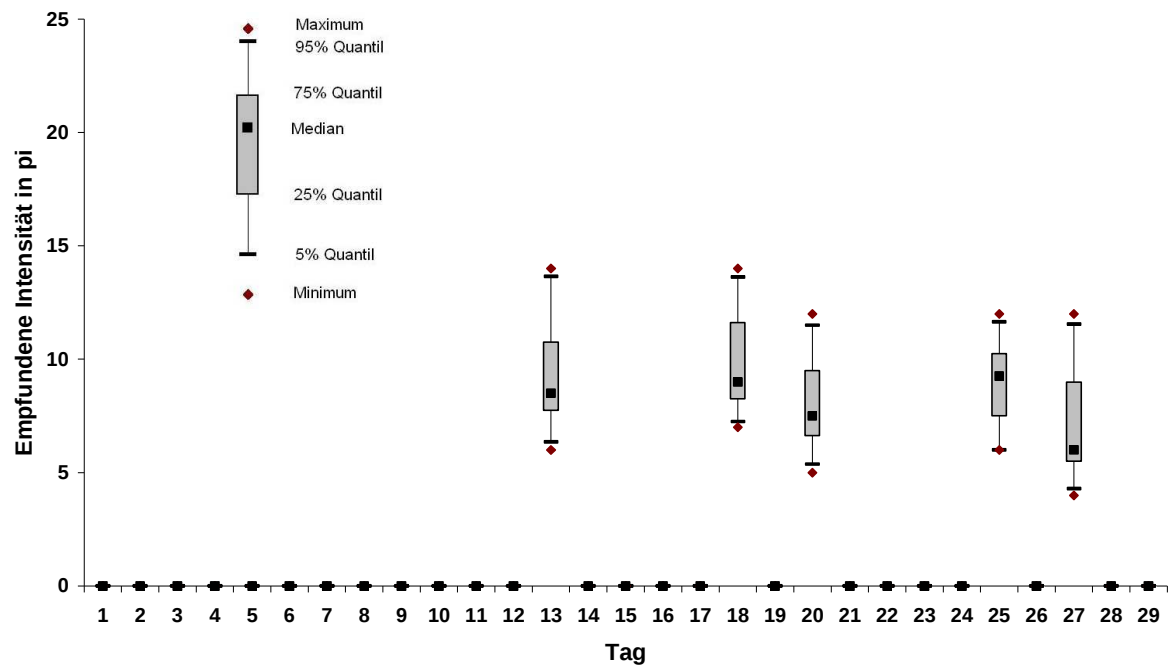
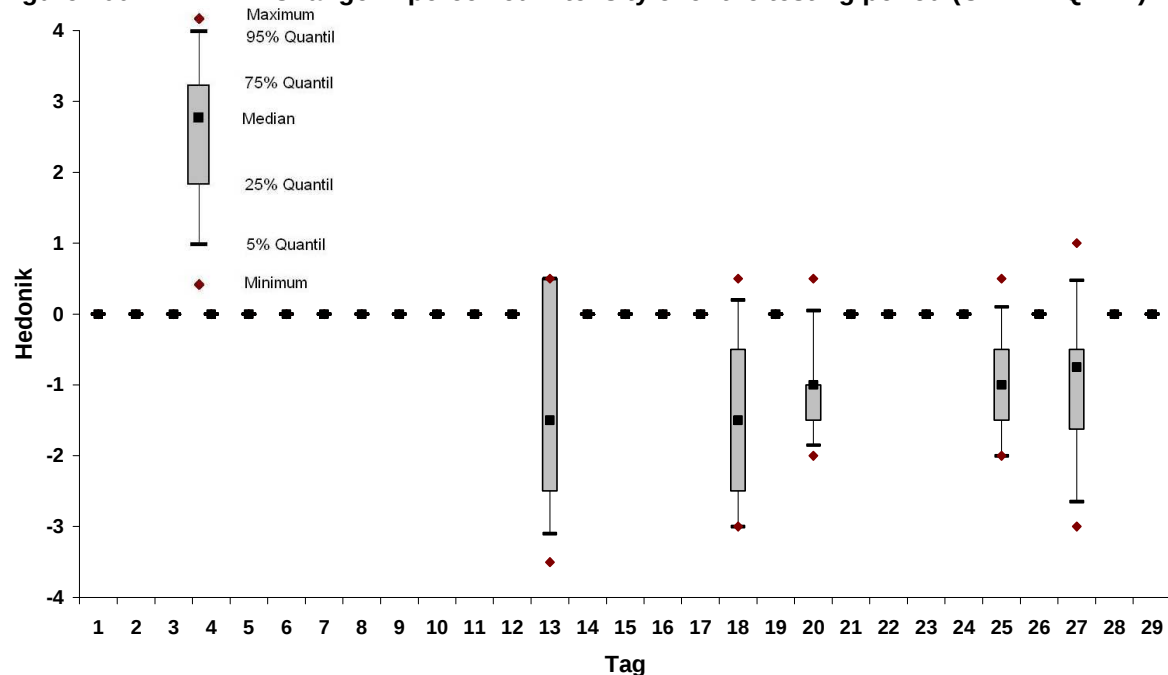


Figure 4004-1: GC/MS chromatogram from day 29 of emissions testing on a PVC flooring. (Peaks 20.15; 21.00; 28.70 IS)

Table 4004-2: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
7	-	-	-	-	-
13	9	10.3	3.9	-1.4	1.5
27	8	8.4	4.3	-1.0	1.2

**Figure 4004-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)****Figure 4004-3: Change in hedonics over the testing period (CLIMPAQ-HRI)**

4015 PVC flooring 3

Table 4015-1: Concentrations of organic compounds measured in a PVC flooring; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.50	7	8	5	6
Unknown*		16.9	2	3	2	1
TVOC			9	11	7	7

* Generalised name, no exact specification possible

Table 4015-2: Summarised AgBB evaluation of a PVC flooring according to DIBt reporting mask

Product: 4015	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	7	$0 \leq 10$	≤ 0.3	8	≤ 0.5	6	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.000	none	≤ 0.5	0.000	≤ 0.5	0.000	≤ 1
$\leq$ VOC or NIK	0	none	≤ 0.05	0	≤ 0.05	0	≤ 0.1
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

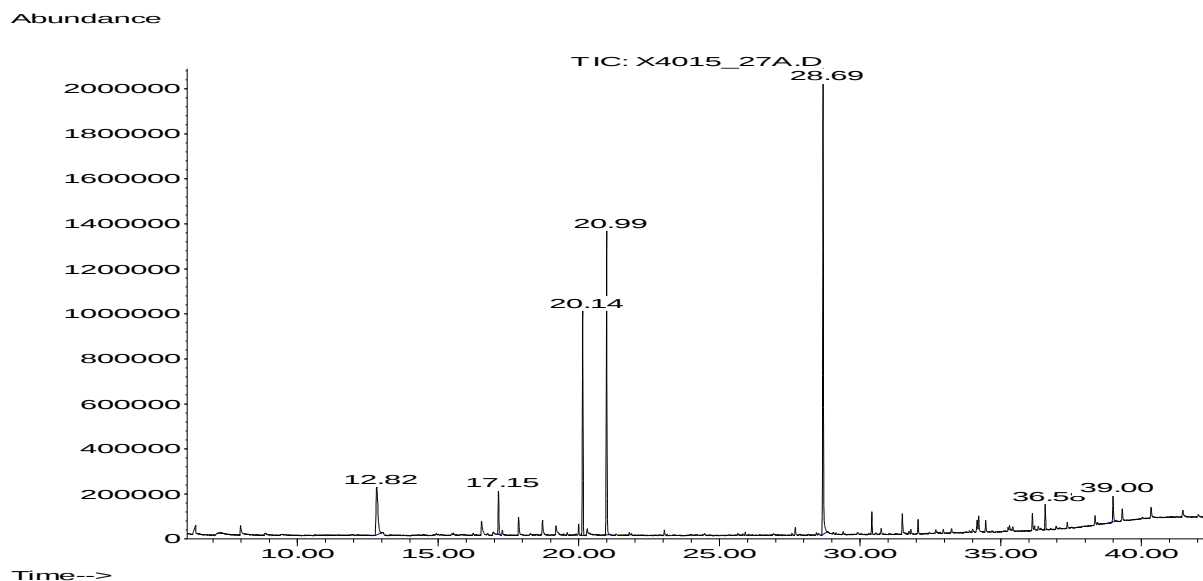


Figure 4015-1: GC/MS chromatogram from day 29 of emissions testing on a PVC flooring. (Peaks 20.17; 21.02; 28.71 IS)

Table 4015-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
4	8	3.3	1.7	0.8	1.5
6	8	6.1	2.8	0.1	1.0
13	9	3.9	2.6	0.2	1.3
27	8	4.3	3.6	0.3	1.5

Table 4015-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
7	22	5.1	4.9	1.2	1.5
14	24	3.9	4.8	0.7	1.7
28	18	4.4	3.8	1.3	1.5

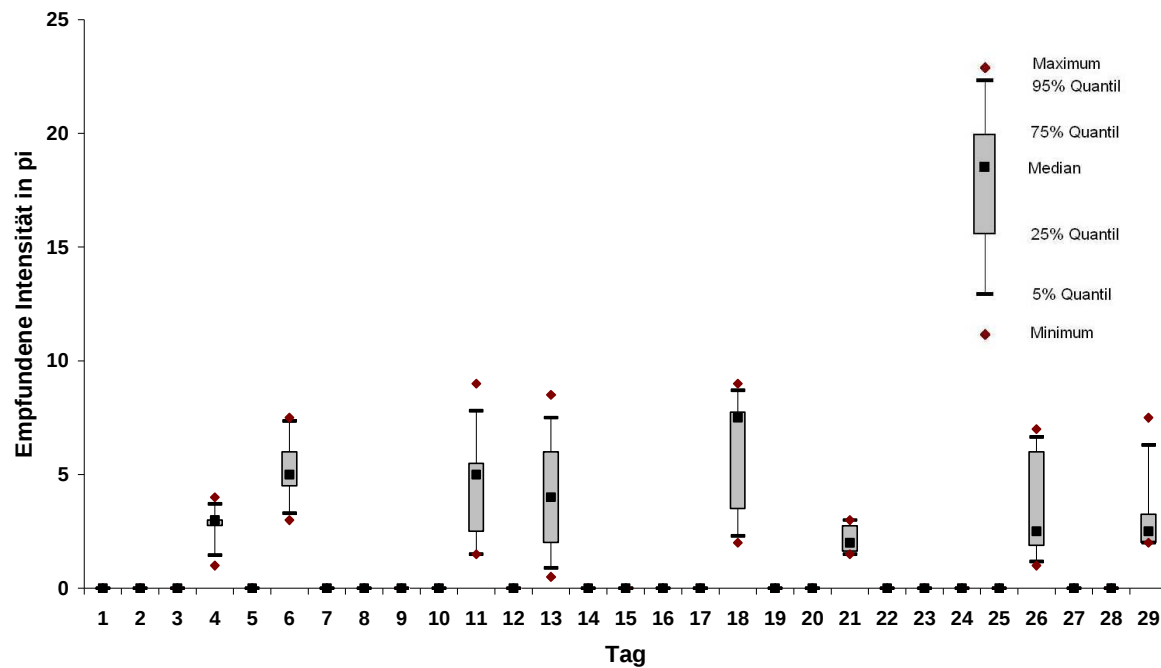


Figure 4015-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

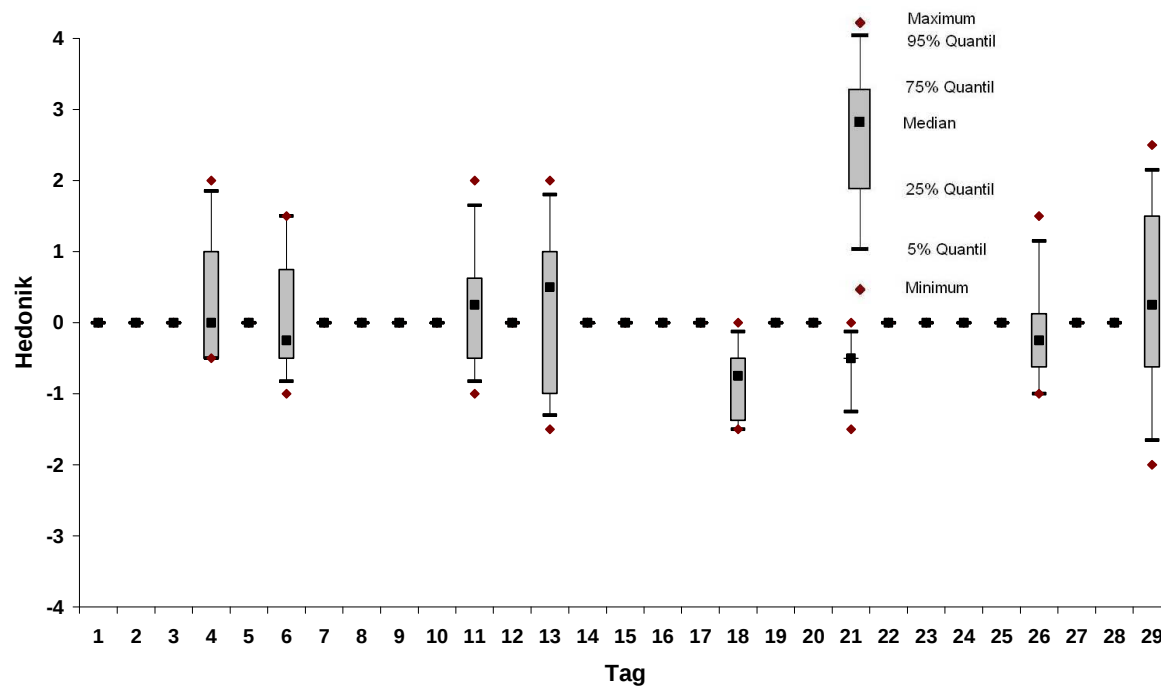


Figure 4015-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4101 PVC flooring 4

Table 4101-1: Concentrations of organic compounds measured in a PVC flooring; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.50	11	16	n.d.	41
Total unknown VOC*	0	16-28	200	340	340	150
Total unknown SVOC*	0	28-32	940	2100	2200	380
TVOC			210	360	340	190

* Generalised name, no exact specification possible

Table 4101-2: Summarised AgBB evaluation of a PVC flooring according to DIBt reporting mask

Product: 4101	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	214	$0.2 \leq 10$	≤ 0.3	354	≤ 0.5	188	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	942	none	!! ≤ 0.03	2051	!! ≤ 0.05	375	!! ≤ 0.1
R (dimensionless)	0.024	none	≤ 0.5	0.034	≤ 0.5	0.080	≤ 1
$\leq$ VOC or NIK	202	none	!! ≤ 0.05	337	!! ≤ 0.05	148	
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

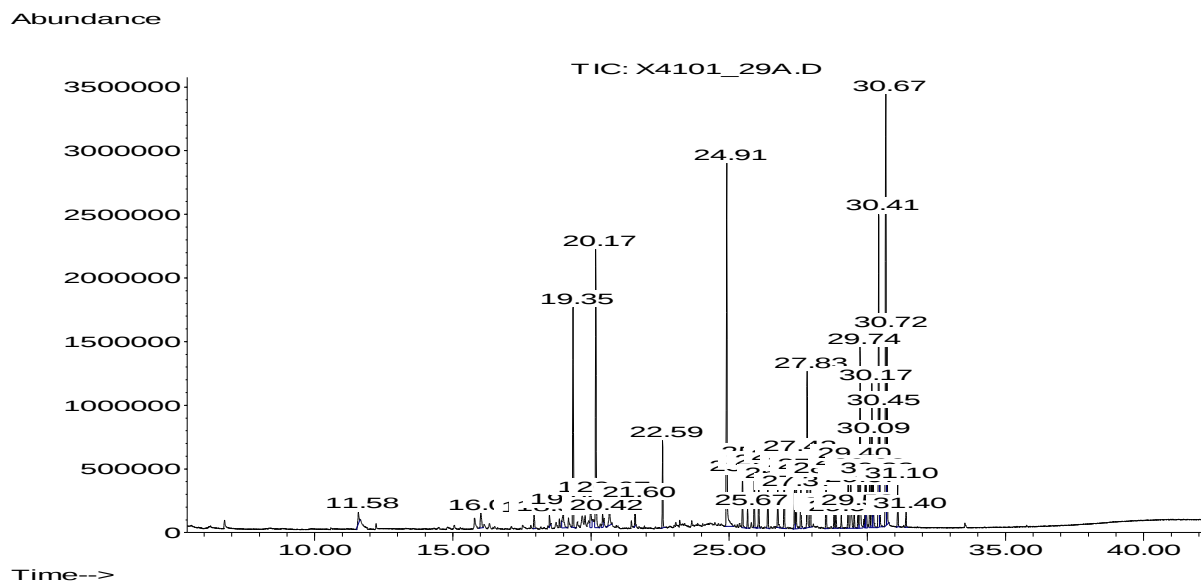


Figure 4101-1: GC/MS chromatogram from day 29 of emissions testing on a PVC flooring.
(Peaks 20.17; 21.02; 28.71 IS)

Table 4101-3: Summarised data from odour testing – panel with comparative scale
(CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	10	7.2	1.8	-1.5	1.9
3	9	6.8	3.0	-1.2	1.7
8	10	8.0	1.1	-1.2	0.9
15	13	5.8	2.0	-1	1.3
29	9	5.7	2.7	-0.8	1.5

Table 4101-4: Summarised data from odour testing – panel without comparative scale
(CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	20	-1.9	4.4	-1.3	1.5
9	15	-4.5	2.3	-1.7	0.9
16	17	-0.8	4.2	-1.1	1.1
30	17	-0.2	3.8	-0.7	1.1

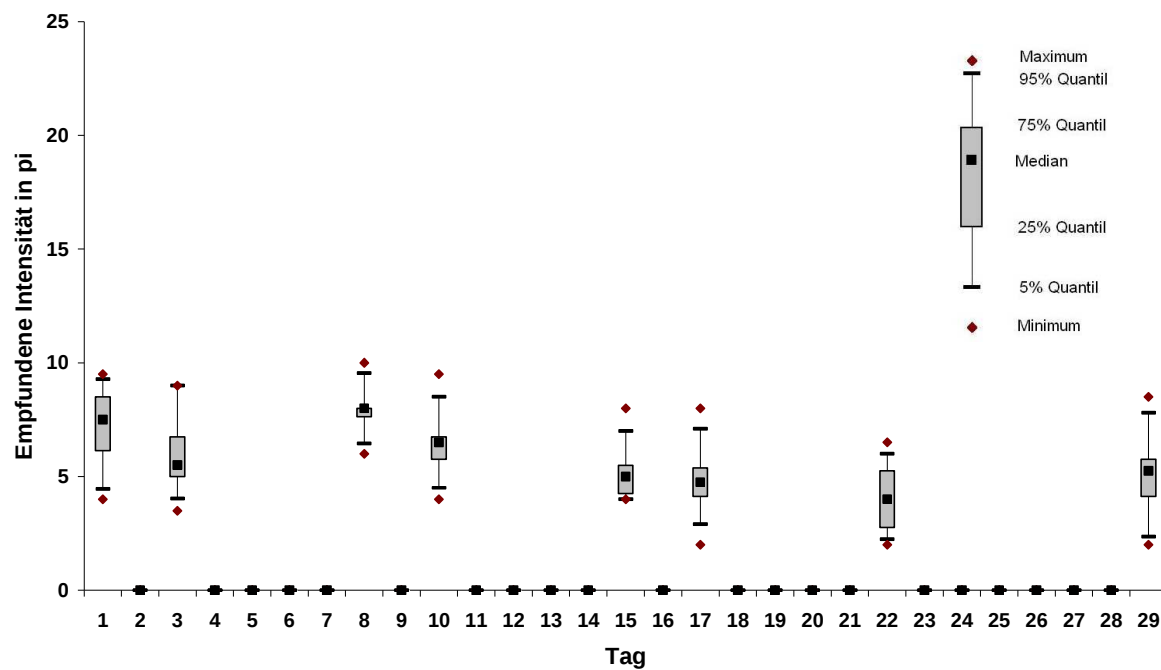


Figure 4101-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

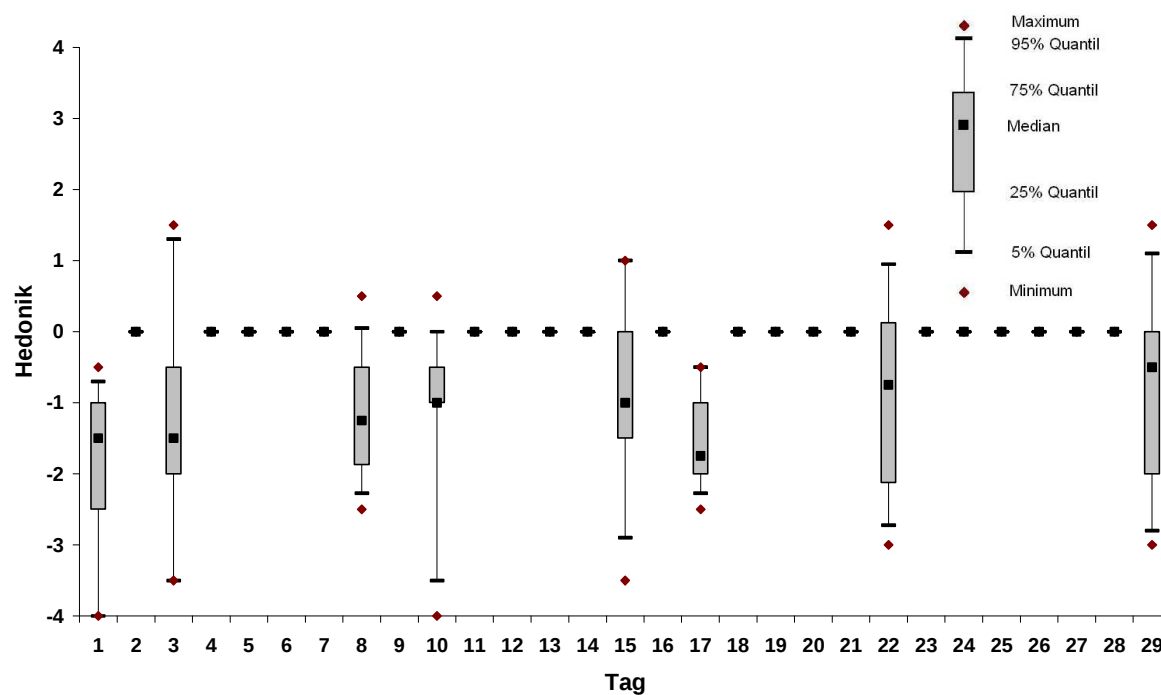


Figure 4101-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4161 PVC flooring 5**Table 4161-1: Concentrations of organic compounds measured in a PVC flooring; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 24 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.4	36	10	n.d.	n.d.
1,4-Butanediol	110-63-4	11.76	210	110	110	75
2-Ethyl-1-hexanol	104-76-7	13.7	14	10	11	7
Methylpyrrolidone	872-50-4	14	170	190	120	140
Diethylene glycol-monobutyl ether	112-34-5	16.5	27	20	20	16
Total unknown VOC*	0	16-28	23	24	23	20
Total unknown SVOC*	0	28-32	19	22	20	15
TVOC			480	360	280	260

* Generalised name, no exact specification possible

Table 4161-2: Summarised AgBB evaluation of a PVC flooring according to DIBt reporting mask

Product: 4161	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	487	$0.5 \leq 10$	!! ≤ 0.3	364	≤ 0.5	261	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	19	none	≤ 0.03	21	≤ 0.05	15	≤ 0.1
R (dimensionless)	0.444	none	≤ 0.5	0.344	≤ 0.5	0.242	≤ 1
$\leq$ VOC or NIK	23	none	≤ 0.05	24	≤ 0.05	20	
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

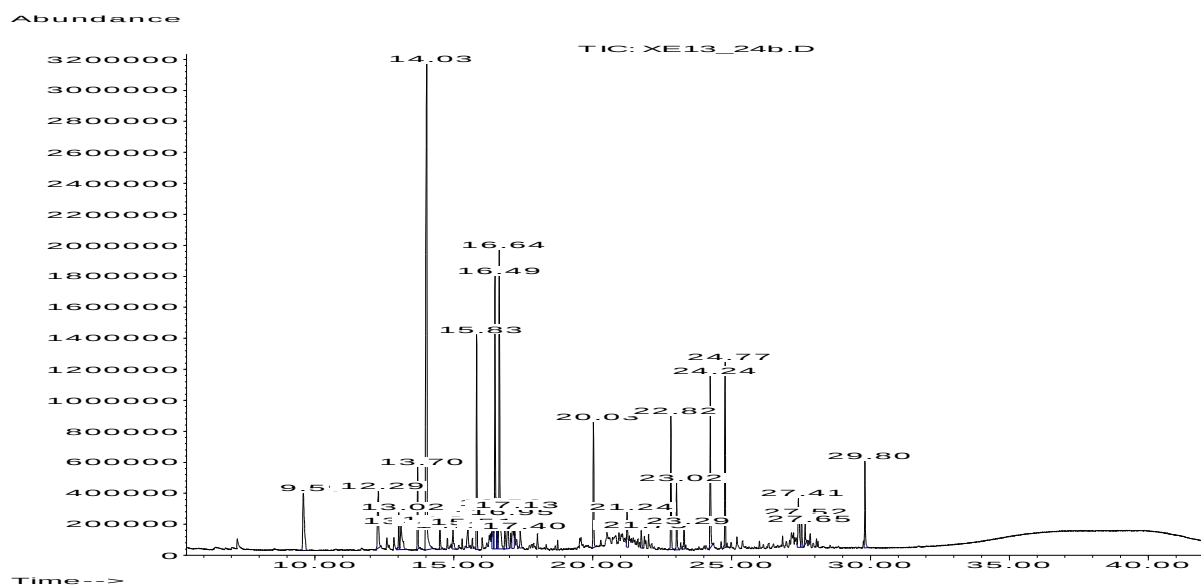


Figure 4161-1: GC/MS chromatogram from day 29 of emissions testing on a PVC flooring. (Peaks 15.8; 16.6; 24.2 IS)

Table 4161-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	8	7.3	3.7	0.1	2.0
3	9	7.1	3.3	-0.1	2.0
8	11	6.0	2.8	-0.1	2.1
15	7	6.7	2.0	0.7	1.6
29	8	6.1	2.4	0.6	1.6

Table 4161-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	21	-0.2	4.3	-0.7	1.6
9	23	1.8	4.9	-0.2	1.6
16	29	0.9	5.2	-0.4	1.5
23	27	1.4	5.5	0.3	1.7

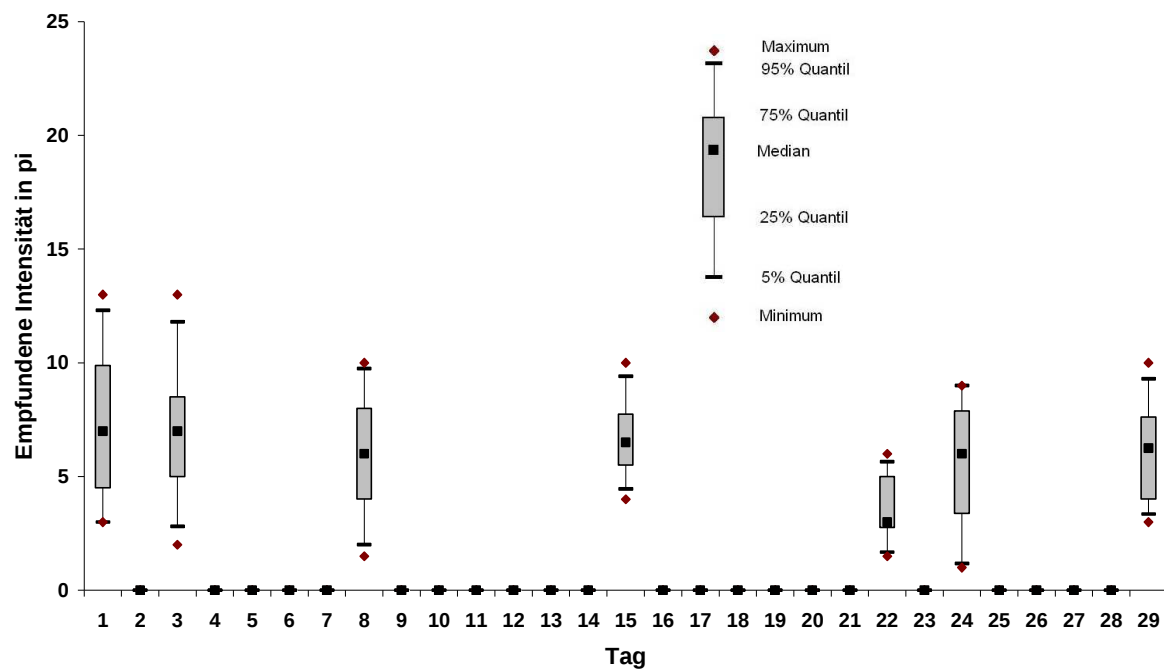


Figure 4161-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

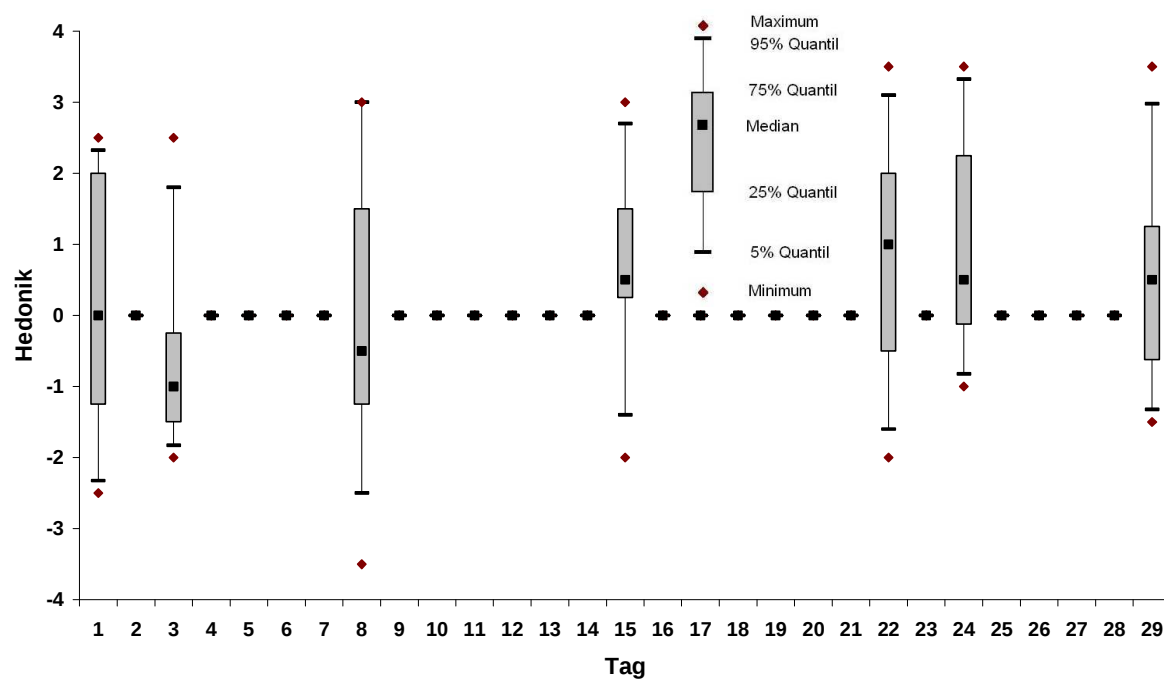


Figure 4161-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4162 PVC flooring 6**Table 4162-1: Concentrations of organic compounds measured in a PVC flooring[◊]; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [µg/m³]	Day 10 [µg/m³]	Day 15 [µg/m³]	Day 24 [µg/m³]
Acetic acid	64-19-7	6.4	6	4	2	4
1,4-Butanediol	110-63-4	11.76	160	110	110	83
2-Ethyl-1-hexanol	104-76-7	13.7	6	11	11	9
Methylpyrrolidone	872-50-4	14	200	120	120	100
Diethylene glycol-monobutylether	112-34-5	16.5	20	21	21	17
Total unknown VOC*		16-28	17	22	24	21
Total unknown SVOC*		28-32	13	20	21	17
TVOC			410	290	290	230

* Generalised name, no exact specification possible

Table 4162-2: Summarised AgBB evaluation of a PVC flooring according to DIBt reporting mask

Product: 4162	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	µg/m³	mg/m³	mg/m³	µg/m³	mg/m³	µg/m³	mg/m³
TVOC (C ₆ - C ₁₆)	404	0.4 ≤ 10	!! ≤ 0.3	287	≤ 0.5	233	≤ 1.0
≤ SVOC (C ₁₆ - C ₂₂)	13	none	≤ 0.03	20	≤ 0.05	17	≤ 0.1
R (dimensionless)	0.348	none	≤ 0.5	0.244	≤ 0.5	0.199	≤ 1
≤ VOC or NIK	17	none	≤ 0.05	22	≤ 0.05	22	
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C ₆)	0	Input value manually!		0		0	
VOC (C ₆ - C ₁₆)							
Toluene equivalent							

[◊] Same PVC flooring as Nr. 4161, different batch

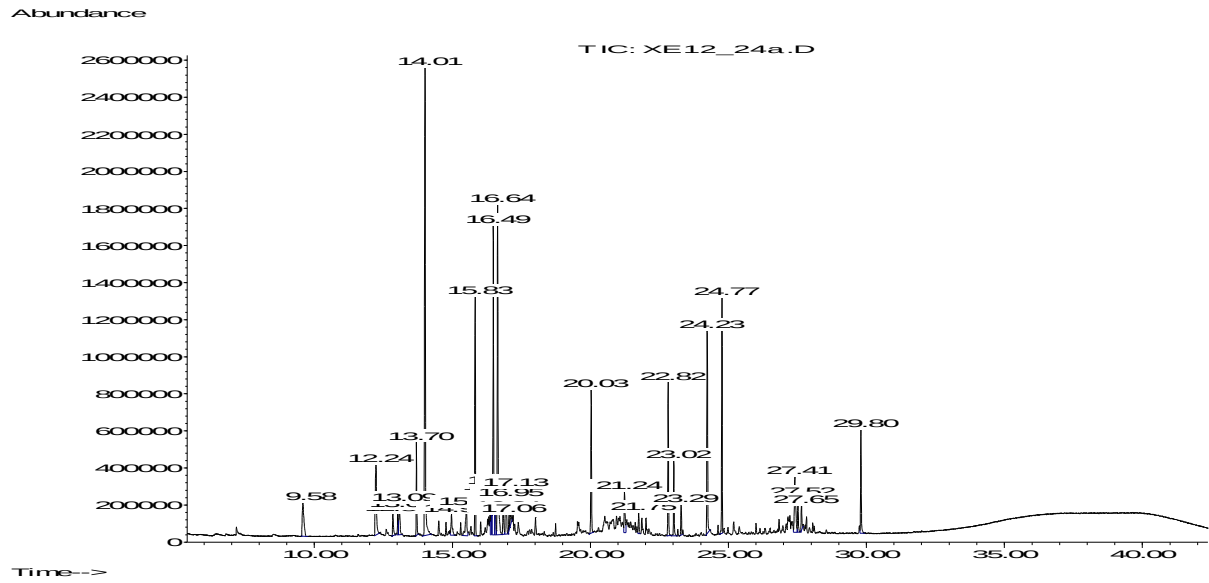


Figure 4162-1: GC/MS chromatogram from day 29 of emissions testing on a PVC flooring.
(Peaks 15.8; 16.6; 24.2 IS)

4199 PVC flooring 7

Table 4199-1: Concentrations of organic compounds measured in a PVC flooring; CLIMPAQ, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
TVOC TÄ			5000	n.d.	n.d.	4500

* TÄ: Toluoläquivalente

Table 4199-2: Summarised AgBB evaluation of a PVC flooring according to DIBt reporting mask

Product: 4162	3 Days			8 Days		29 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	5000	5 ≤ 10	!! ≤ 0.3	0	≤ 0.5	4500	!! ≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.0	none	≤ 0.5	0.0	≤ 0.5	0.0	≤ 1
≤ VOC or NIK	5000	none	!! ≤ 0.05	0	≤ 0.05	4500	!!
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

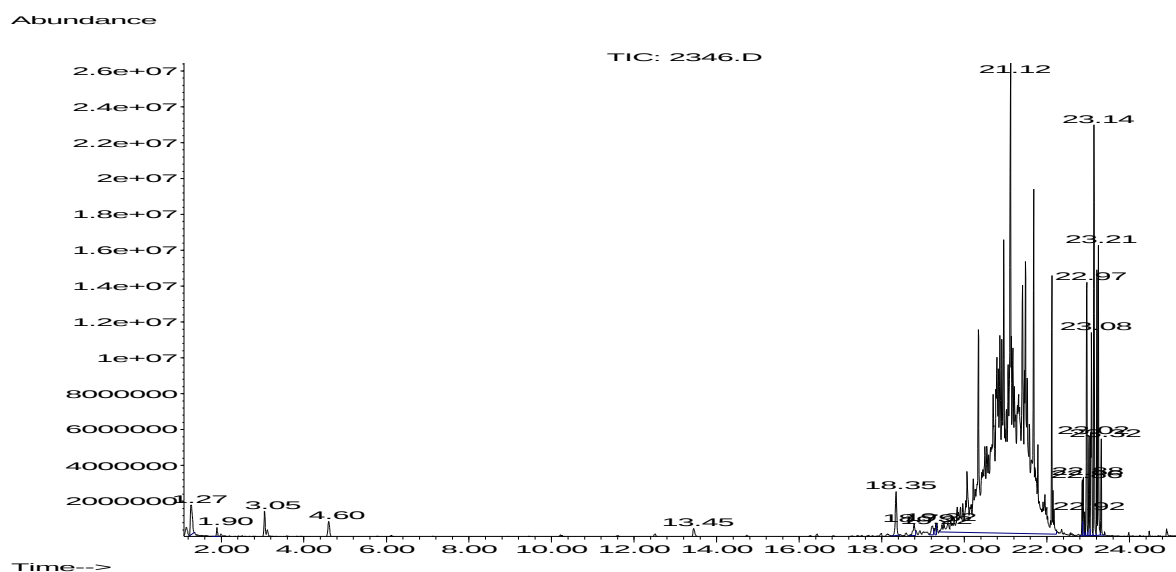


Figure 4199-1: GC/MS chromatogram from day 29 of emissions testing on a PVC flooring. (Peaks 15.8; 16.6; 24.2 IS)

Table 4199-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
8	-	-	-	-	-
15	7	8.3	2.4	-1.3	1.8
29	5	9,1	1.7	-1.3	1.4

Table 4199-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
9	22	-2.4	3.4	-1.3	1.2
16	28	-1.5	5.0	-0.8	1.8
30	21	-1.4	5.4	-1.1	1.8

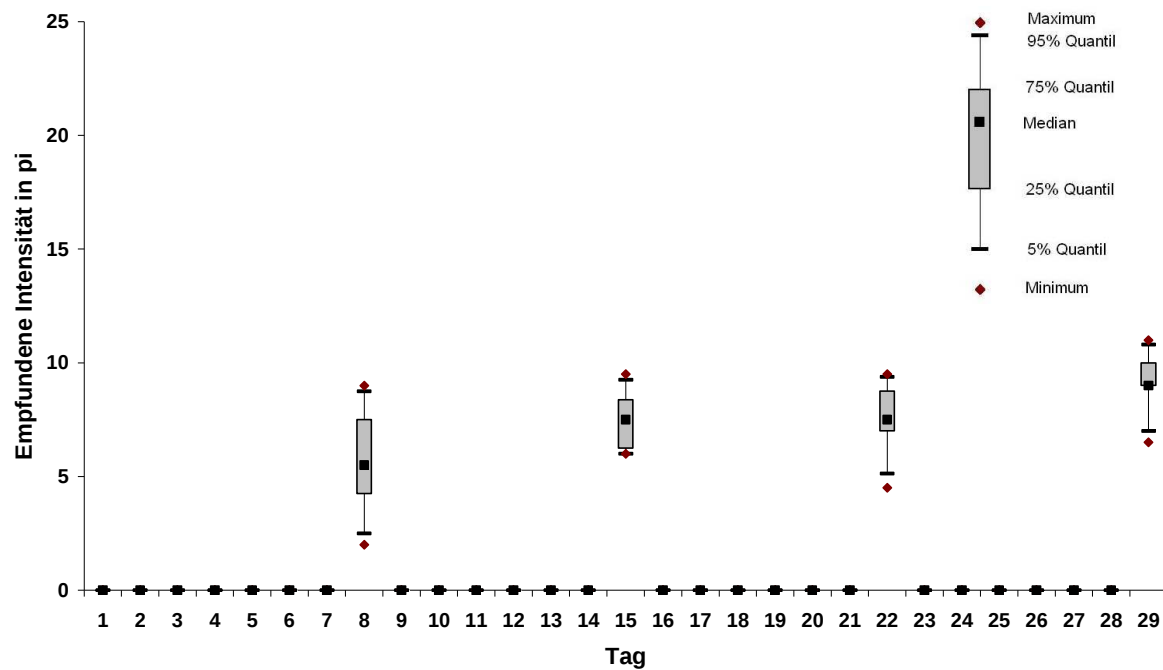


Figure 4199-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

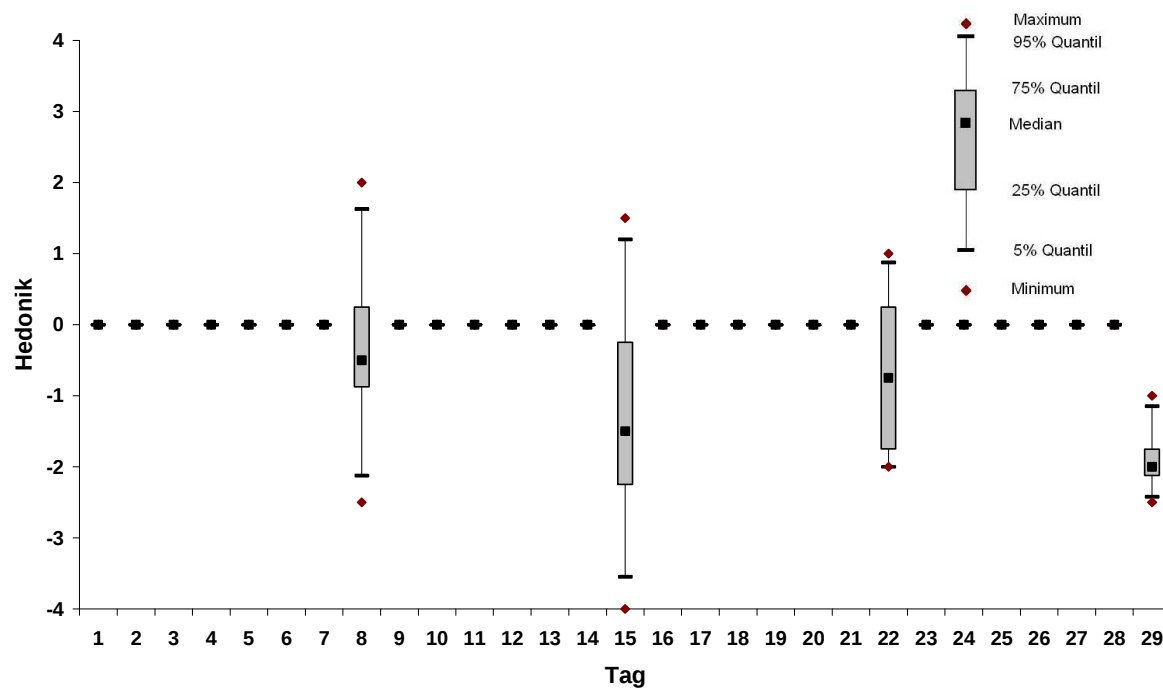


Figure 4199-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

Other floorings

3915 Natural rubber flooring 1

Table 3915-1: Concentrations of organic compounds measured in a natural rubber flooring; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Hexamethylcyclotrisiloxane	541-05-9	12.80	6	6	n.d.	2
1,3 dichloro-2-propanol	96-23-1	16.00	10	7	n.d.	4
Octamethylcyclotetrasiloxane	556-67-2	20.50	1	1	n.d.	n.d.
Decamethylcyclopentasiloxane	541-02-6	25.50	1	1	n.d.	1
Benzothiazole	95-16-9	27.50	23	17	n.d.	1
Naphthalene	91-20-3	26.60	17	11	n.d.	7
n-Hexadecane	544-76-3	34.00	2	2	n.d.	2
n-Tetradecane	629-59-4	30.70	3	2	n.d.	2
Unknown*		30.70	1	1	n.d.	n.d.
Unknown*		31.00	1	1	n.d.	n.d.
Unknown*		31.30	3	2	n.d.	1
Unknown*		31.40	3	2	n.d.	1
Unknown*		35.80	2	1	50	2
Unknown*		36.80	1	2	190	3
Unknown*		37.50	6	5	1150	6
TVOC			4900	3000	3100	1900

* Generalised name, no exact specification possible

Table 3915-2: Summarised AgBB evaluation of a natural rubber flooring according to DIBt reporting mask

Product: 3915 ADAM_2008_04	3 Days			7 Days			28 Days	
	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3	
TVOC ($\text{C}_6 - \text{C}_{16}$)	56	0.06 ≤ 10	≤ 0.3	41	!! ≤ 0.5	11	≤ 1.0	
$\leq \text{SVOC} (\text{C}_{16} - \text{C}_{22})$	6	none	≤ 0.03	5	≤ 0.05	6	≤ 0.1	
R (dimensionless)	0.340	none	≤ 0.5	0.220	≤ 0.5	0.140	≤ 1	
$\leq \text{VOC or NIK}$	29	none	≤ 0.05	23	≤ 0.05	0	≤ 0.1	
$\leq \text{Carcinogenic}$	10	0.01 ≤ 0.01	!! ≤ 0.001	7	!! ≤ 0.001	4	!! ≤ 0.001	
This block provides additional information								
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0		
VOC ($\text{C}_6 - \text{C}_{16}$)								
Toluene equivalent								

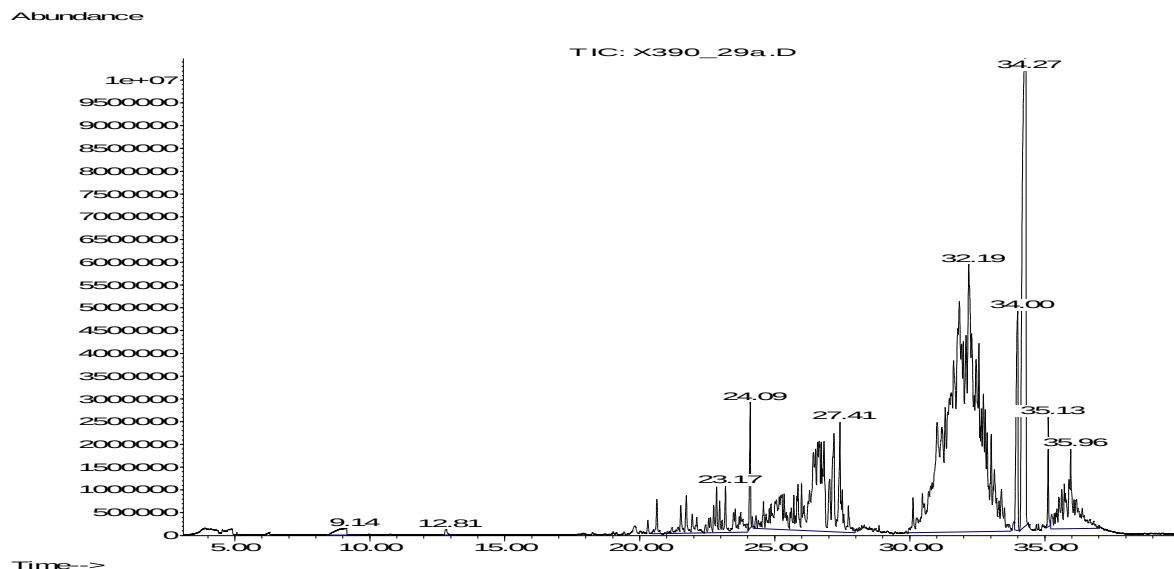


Figure 3915-1: GC/MS chromatogram from day 29 of emissions testing on a natural rubber flooring. (Peaks 25.33; 26.50;35.06 IS)

Table 3915-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
7	9	9.8	3.0	-2.4	0.9
14	9	9.2	4.1	-2.3	1.2
28	10	11.2	3.5	-2.3	1.5

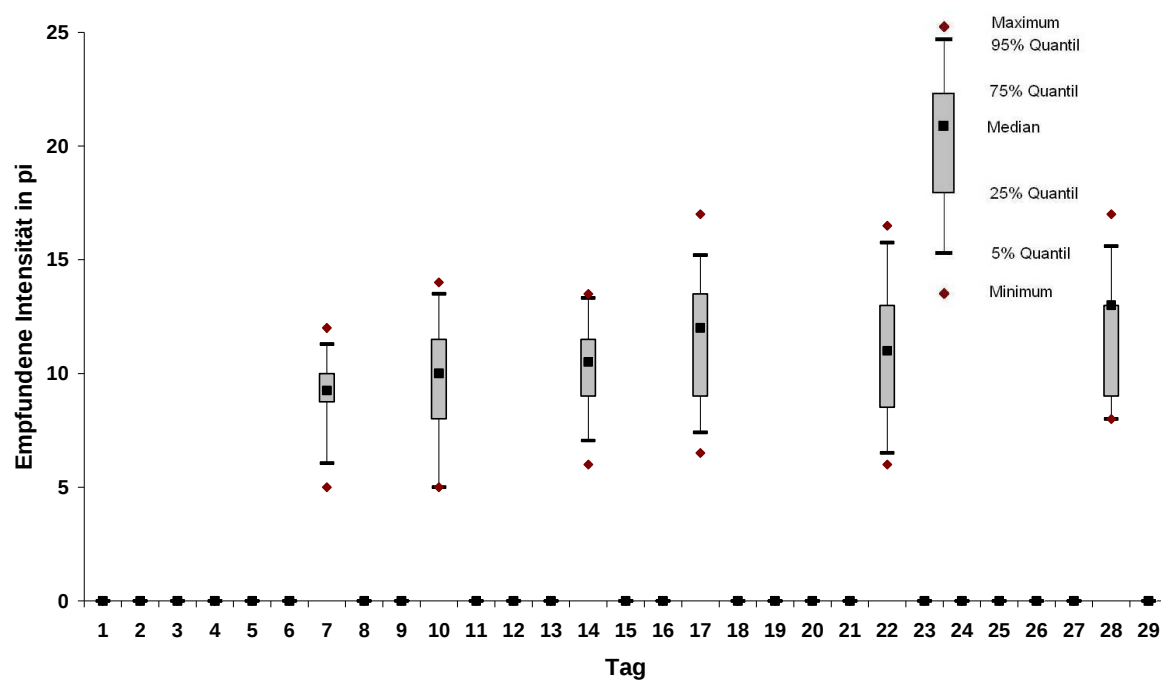


Figure 3915-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

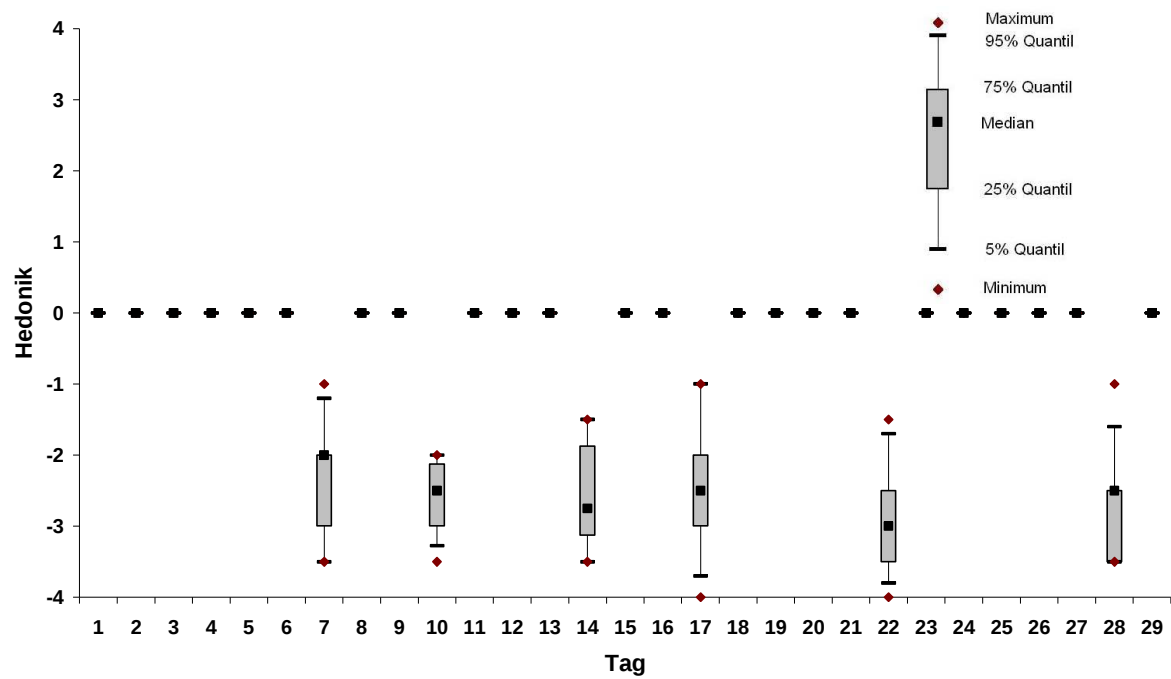


Figure 3915-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

3948 Natural rubber flooring 2**Table 3948-1: Concentrations of organic compounds measured in a natural rubber flooring; 24-litre chamber, $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Benzaldehyde	100-42-5	8.10	c	1	1	2
2-Ethyl-1-hexanol	100-52-7	9.40	4	1	1	1
Naphthalene	104-76-7	16.00	8	5	5	5
Benzothiazole	91-20-3	20.50	22	14	16	15
n-Tetradecane	95-16-9	25.50	1	-	-	-
Unknown*		27.50	12	9	9	9
Unknown*		34.80	2	1	1	1
TVOC			51	31	33	33

* Generalised name, no exact specification possible

Table 3948-2: Summarised AgBB evaluation of a natural rubber flooring according to DIBt reporting mask

Product: 3948	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	30	$0.03 \leq 10$	≤ 0.3	20	≤ 0.5	15	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	12	none	≤ 0.03	9	≤ 0.05		≤ 0.1
R (dimensionless)	0.166	none	≤ 0.5	0.104	≤ 0.5	0.000	≤ 1
$\leq$ VOC or NIK	22	none	≤ 0.05	14	≤ 0.05	15	≤ 0.1
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001		≤ 0.001		≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

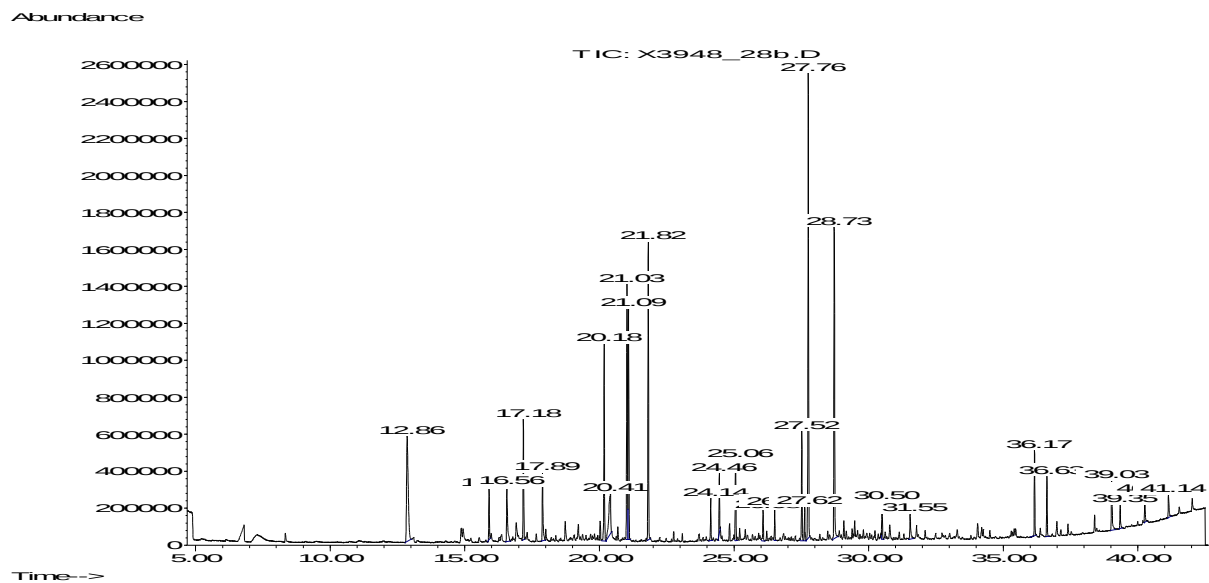


Figure 3948-1: GC/MS chromatogram from day 29 of emissions testing on a natural rubber flooring. (Peaks 25.33; 26.50;35.06 IS)

Table 3948-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	11	8.5	3.8	-1.6	1.0
7	12	6.9	2.9	-2.0	1.2
14	10	6.9	3.9	-0.8	1.1
28	11	5.7	4.2	-0.9	0.9

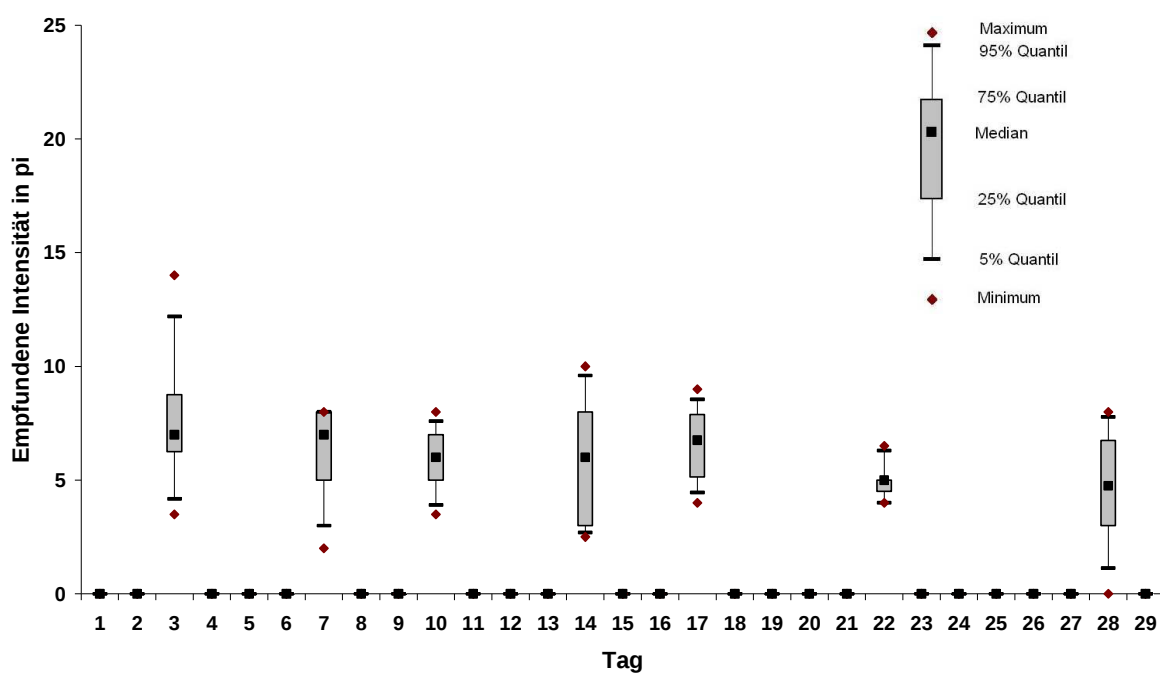


Figure 3948-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

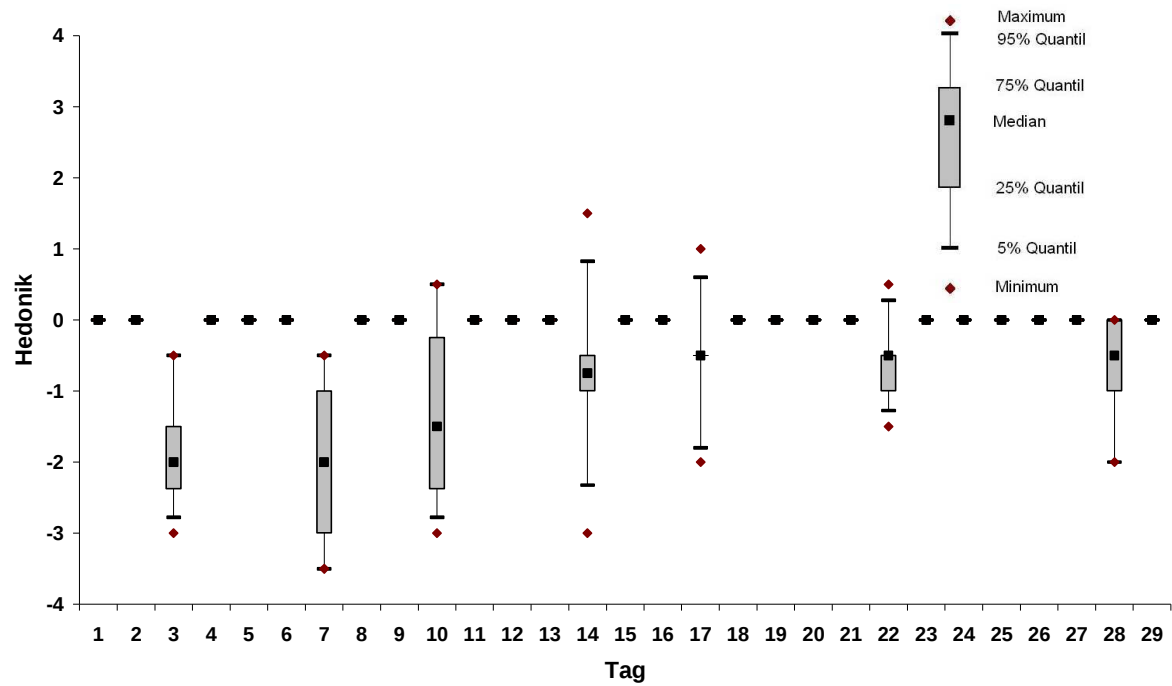


Figure 3948-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4005 Natural rubber flooring 3

Table 4005-1: Concentrations of organic compounds measured in a natural rubber flooring; CLIMPAQ-HRI, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.59	14	11	10	16
1-Butylacetate	123-86-4	12.64	3	4	1	3
Styrene	100-42-5	14.85	25	8	15	8
Cyclohexanone	108-94-1	14.91	15	9	12	6
Benzothiazole	95-16-9	21.8	61	49	47	35
4-Phenylcyclohexene	4994-16-5	23.7	50	44	40	35
Unknown*		24	10	10	10	6
Unknown*		25.04	7	7	7	5
TVOC			180	140	140	110

* Generalised name, no exact specification possible

Table 4005-2: Summarised AgBB evaluation of a natural rubber flooring according to DIBt reporting mask

Product: 4005	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	184	$0.2 \leq 10$	≤ 0.3	136	≤ 0.5	111	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	7	none	≤ 0.03	7	≤ 0.05	5	≤ 0.1
R (dimensionless)	0.139	none	≤ 0.5	0.091	≤ 0.5	0.086	≤ 1
$\leq$ VOC or NIK	70	none	!! ≤ 0.05	58	≤ 0.05	41	≤ 0.1
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

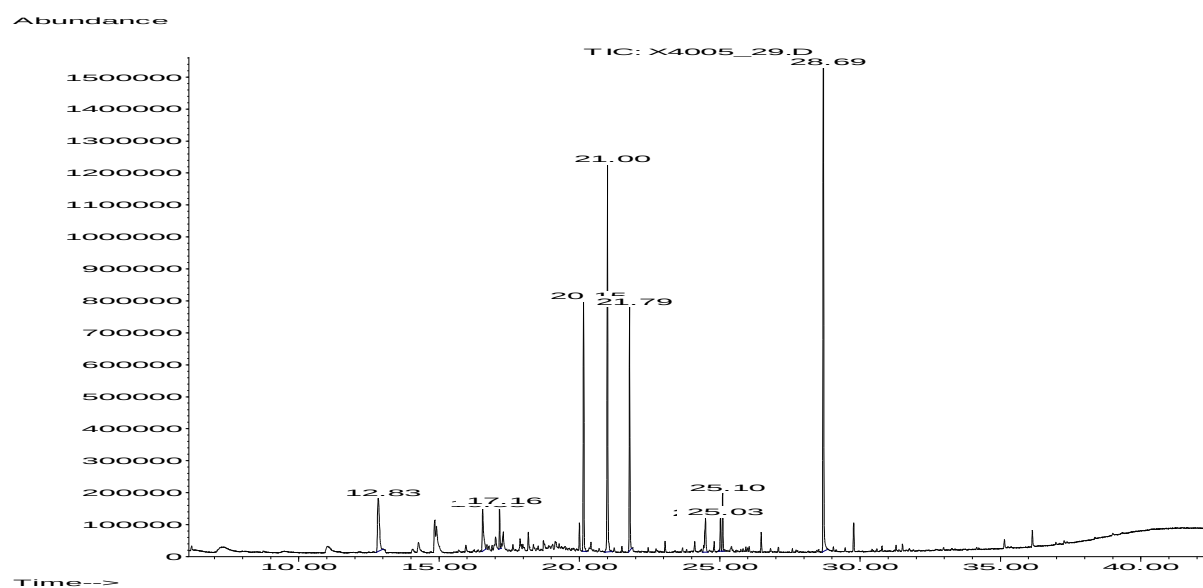


Figure 4005-1: GC/MS chromatogram from day 29 of emissions testing on a natural rubber flooring. (Peaks 20.17; 21.02; 28.71 IS)

Table 4005-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	8	14.2	3.4	-3.0	0.7
3	8	10.4	4.7	-1.8	1.5
8	9	10.8	2.5	-2.1	0.9
15	9	10.7	3.6	-1.4	1.6
29	8	9.2	3.4	-1.3	1.4

Table 4005-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	20	-3.3	4.3	-1.4	1.7
9	20	-4.0	5.2	-1.7	2.0
16	20	-4.8	4.8	-1.7	1.9
30	22	-2.0	4.4	-1.0	1.3

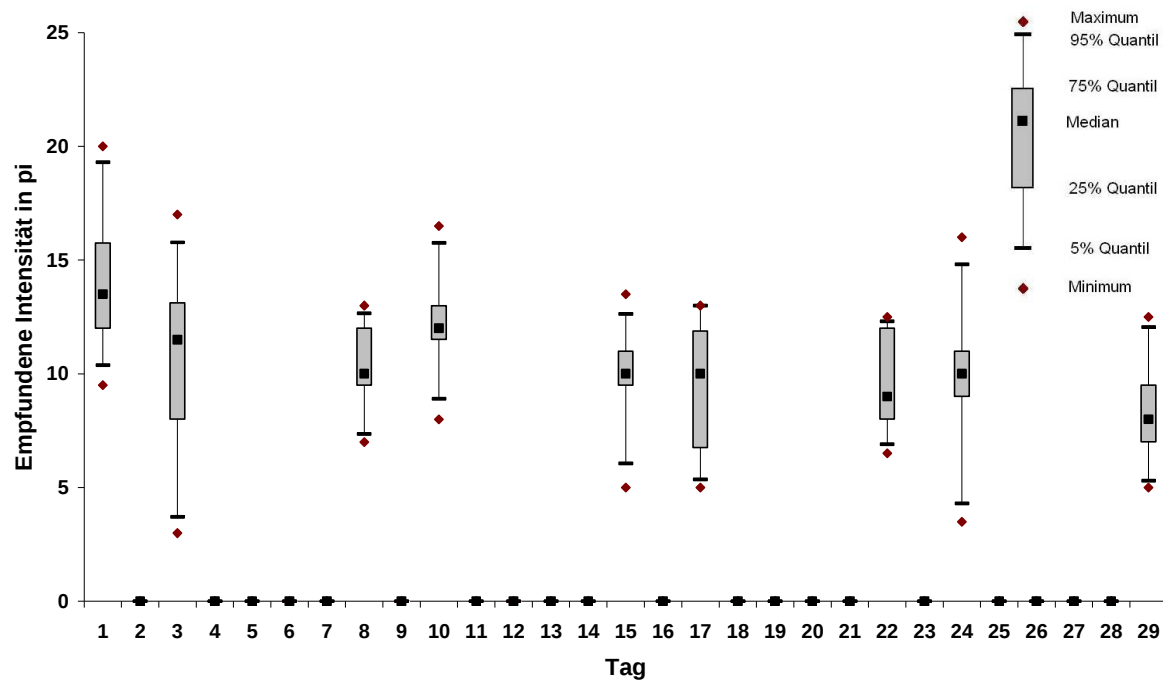


Figure 4005-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

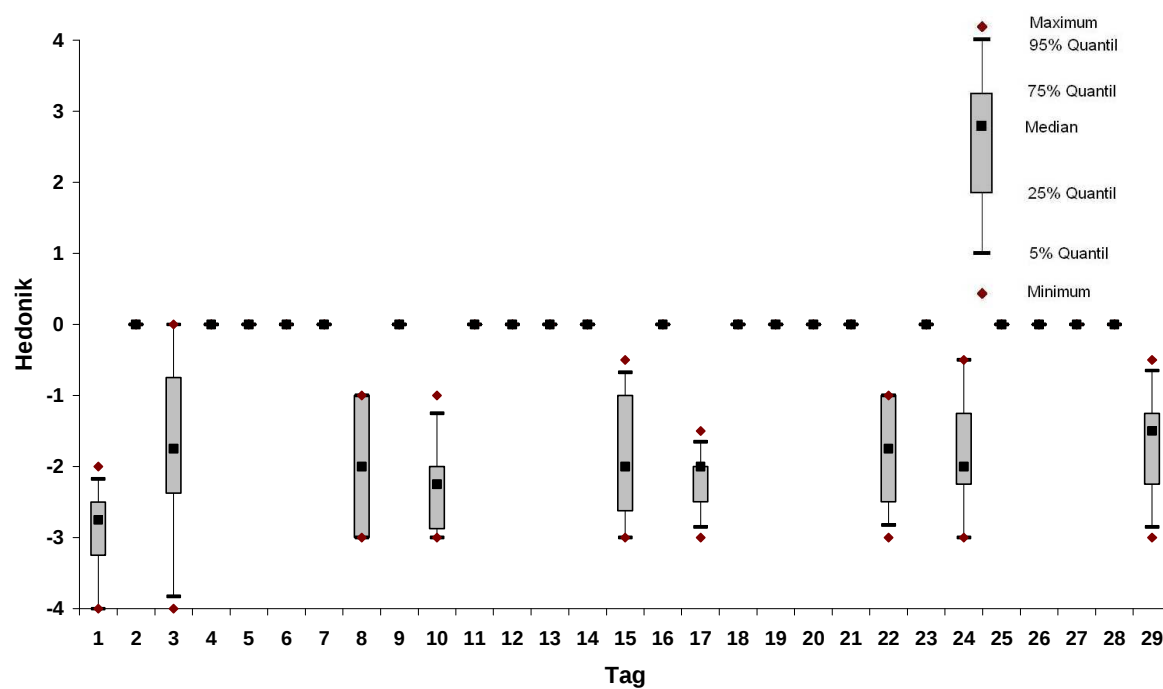


Figure 4005-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4014 Linoleum flooring 1

Table 4014-1: Concentrations of organic compounds measured in a linoleum flooring; CLIMPAQ, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.6	22	26	29	27
Hexanal	66-25-1	12.1	11	10	11	9
Unknown*		17.6	24	20	19	13
Unknown*		24.7	5	5	6	4
Unknown*		27.5	4	4	4	2
Unknown*		30.4	4	4	4	4
TVOC			70	68	140	59

* Generalised name, no exact specification possible

Table 4014-2: Summarised AgBB evaluation of a linoleum flooring according to DIBt reporting mask

Product: 4014	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	62	$0.2 \leq 10$	≤ 0.3	61	≤ 0.5	49	≤ 1.0
$\leq \text{SVOC} (\text{C}_{16} - \text{C}_{22})$	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.056	none	≤ 0.5	0.063	≤ 0.5	0.064	≤ 1
$\leq \text{VOC or NIK}$	29	none	≤ 0.05	25	≤ 0.05	13	≤ 0.1
$\leq \text{Carcinogenic}$	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

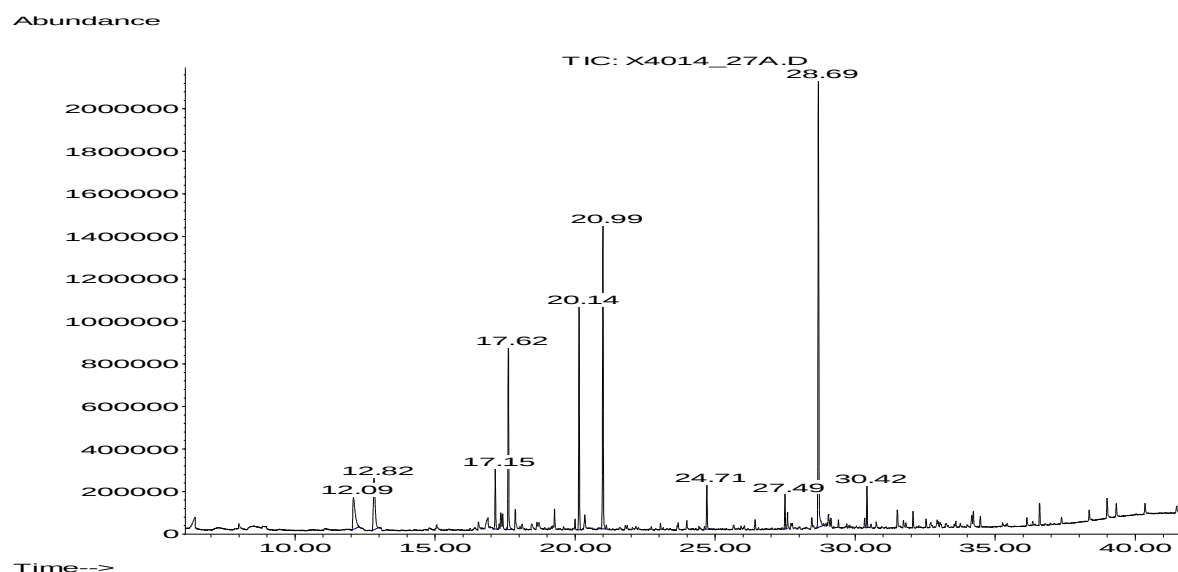


Figure 4014-1: GC/MS chromatogram from day 29 of emissions testing on a linoleum flooring. (Peaks 20.14; 20.99; 28.69 IS)

Table 4014-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
4	8	11.3	3.2	-2.3	0.8
6	8	11.2	3.2	-2.1	0.6
13	9	9.8	3.4	-2.0	0.7
29	8	10.3	3.5	-1.6	0.5

Table 4014-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
7	22	-1.5	5.0	-0.8	2.0
14	24	-2.4	5.3	-1.2	1.8
28	19	-1.3	5.1	-0.9	1.9

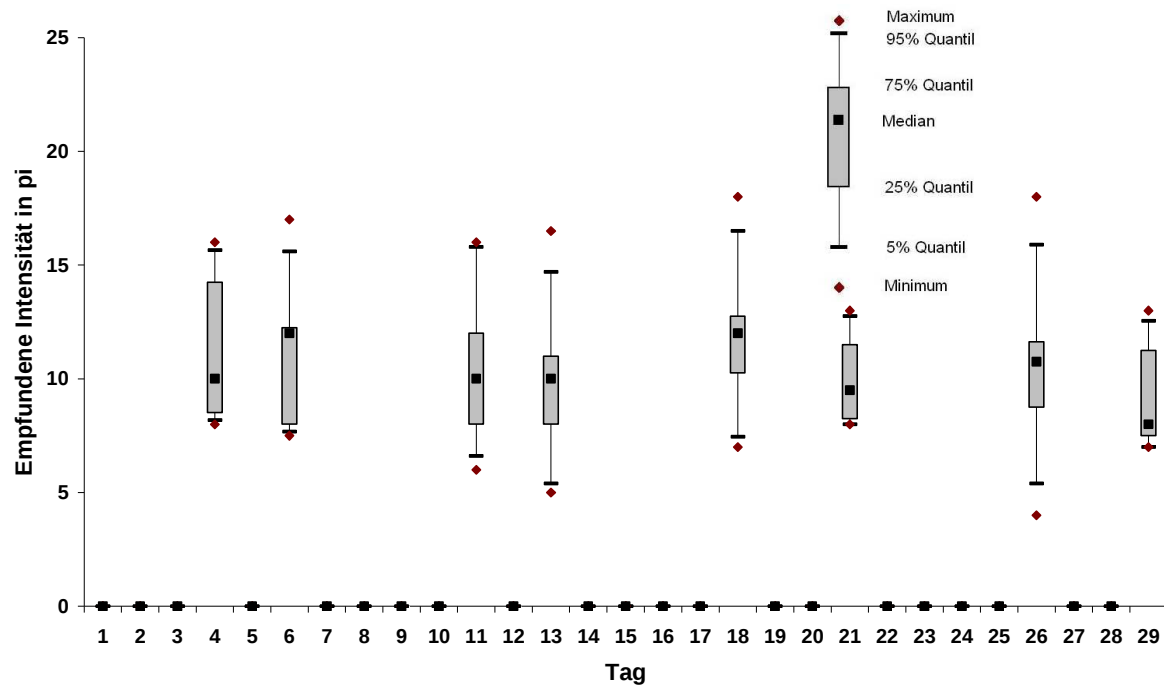


Figure 4014-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

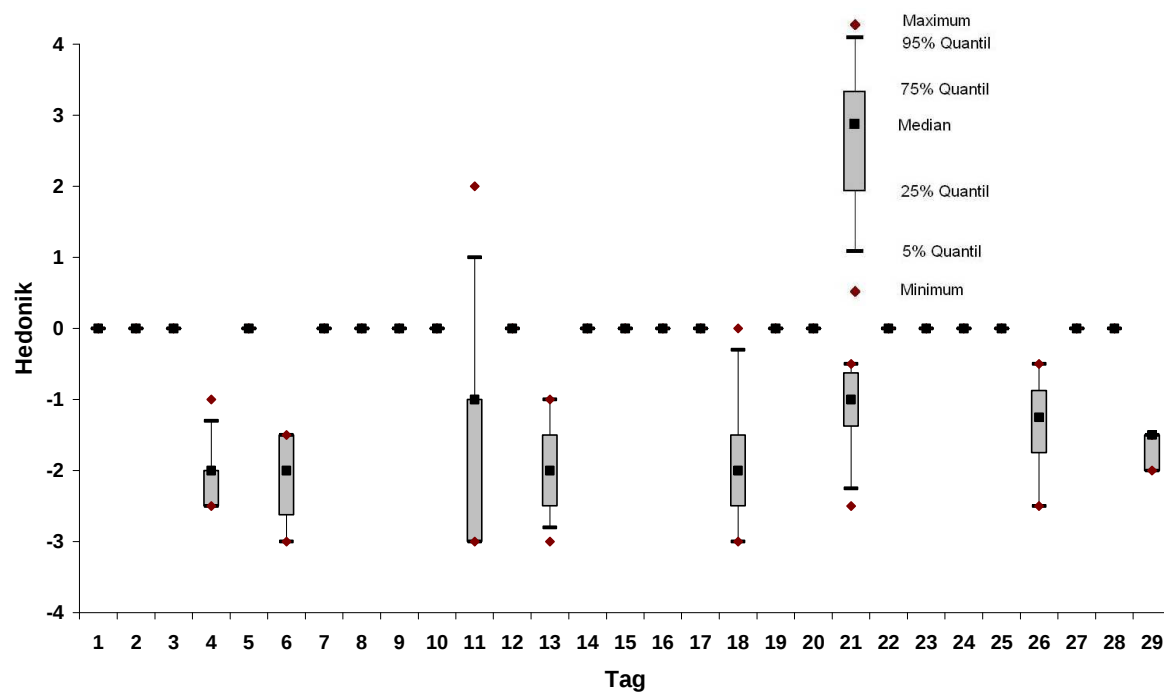


Figure 4014-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4039 Linoleum flooring 2

Table 4039-1: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	8	6.9	2.1	-0.8	0.8
8	11	9.0	3.5	-0.3	1.5
15	10	7.7	3.5	-0.7	1.1
29	11	8.5	2.5	-0.5	1.3

Table 4039-2: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	20	0.0	4.8	-0.3	1.7
9	20	0.5	5.1	-0.2	1.7
16	18	0.6	5.6	0.2	2.0
30	14	-0.4	6.9	-0.4	2.6

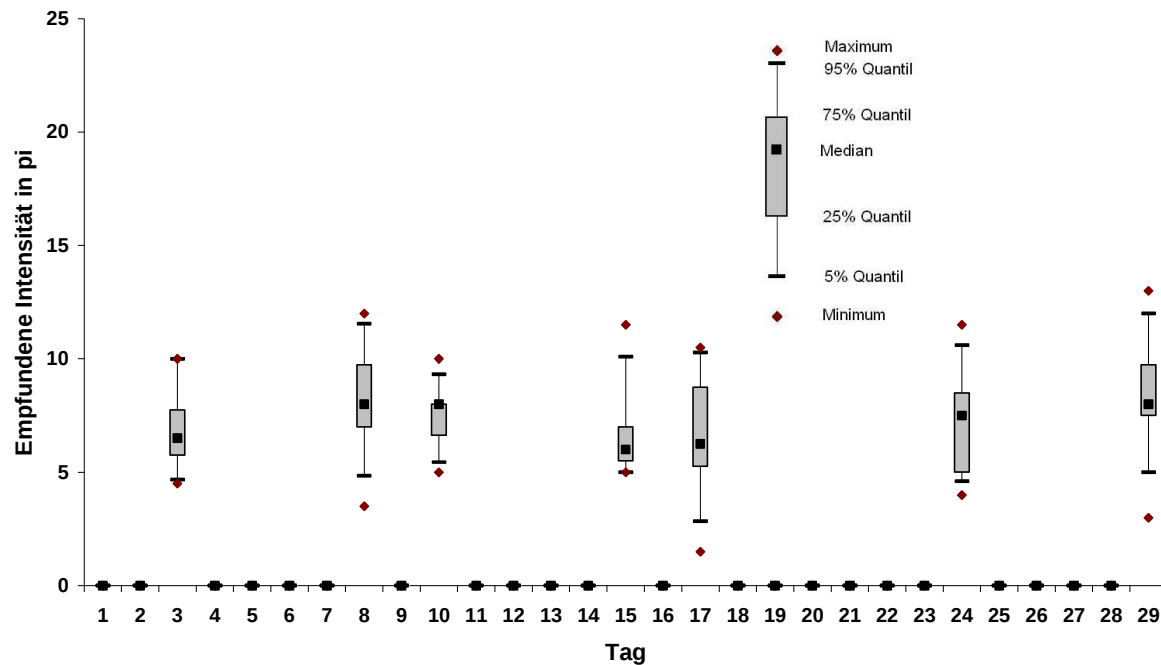
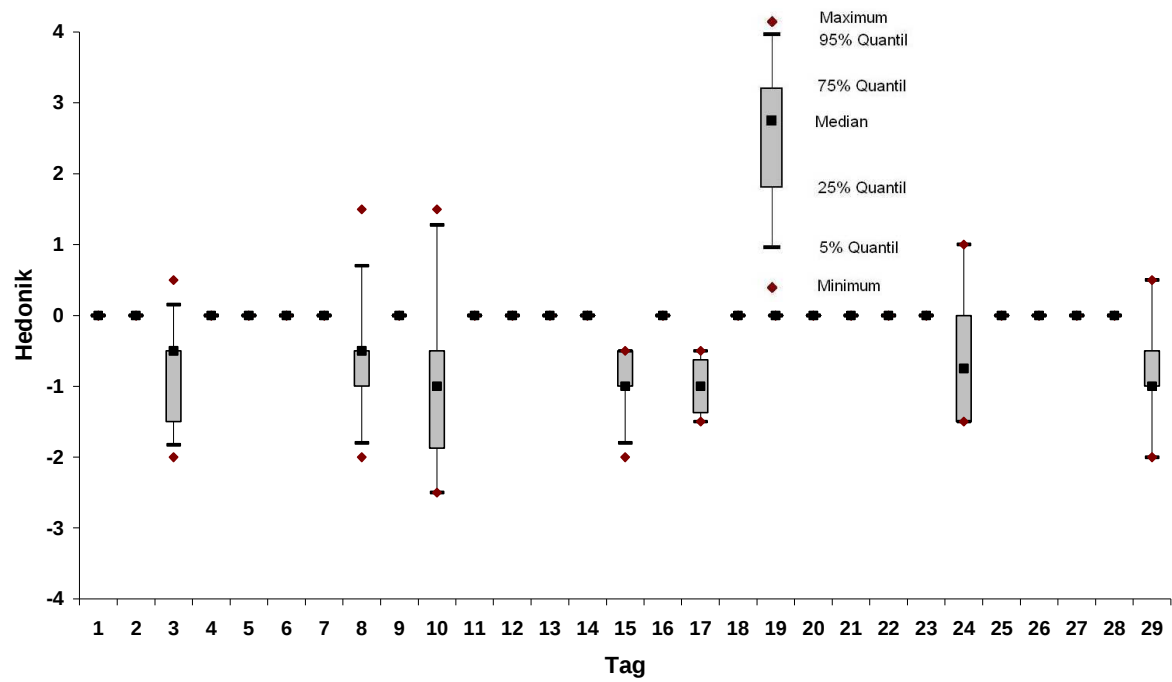


Figure 4039-1: Change in perceived intensity over the testing period (CLIMPAQ-HRI)



4159 Prefabricated parquet

Table 4159-1: Concentrations of organic compounds measured in a prefabricated parquet; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.4	480	390	320	170
Pentanal	110-62-3	7	12	11	11	9
Hexanal	66-25-1	9.1	24	23	22	19
Cyclohexanone	108-94-1	11.2	4	5	5	4
α -Pinene	80-56-8	12	12	5	5	4
β -Pinene	127-91-3	12.9	5	2	2	1
3-Carene		13.5	5	3	3	2
Limonene	138-86-3	13.9	9	12	12	5
TVOC			550	450	380	210

Table 4159-2: Summarised AgBB evaluation of a prefabricated parquet flooring according to DIBt reporting mask

Product: 4159	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	538	0.5 ≤ 10	!! ≤ 0.3	330	≤ 0.5	203	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	1.008	none	!! ≤ 0.5	0.594	!! ≤ 0.5	0.396	!! ≤ 1
≤ VOC or NIK	0	none	≤ 0.05	53	≤ 0.05	0	≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

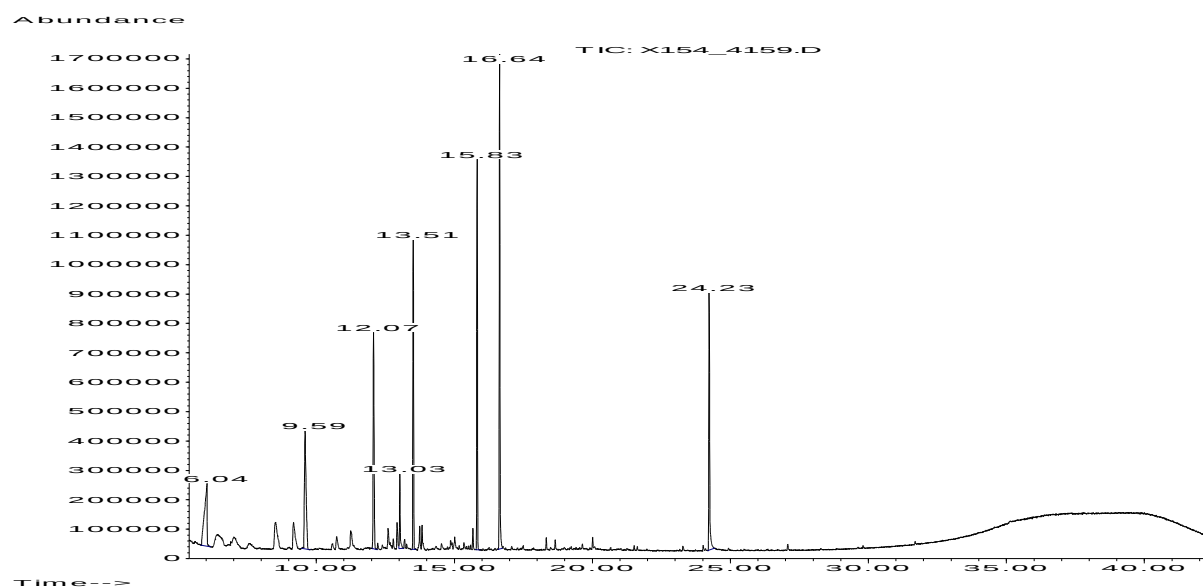


Figure 4159-1: GC/MS chromatogram from day 29 of emissions testing on a prefabricated parquet. (Peaks 15.8; 16.6; 24.2 IS)

Table 4159-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	8	10.3	3.0	1	1.7
3	9	6.8	3.2	1.1	1.5
8	11	5.9	2.8	0.2	1.5
15	7	5.1	2.7	0.6	1.3
29	8	5.8	1.9	-0.4	1.5

Table 4159-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	21	0.0	4.8	-0.9	1.4
9	23	1.6	5.7	-0.1	2.0
16	29	0.6	4.2	-0.5	1.3
23	29	1.7	4.5	0.1	1.6

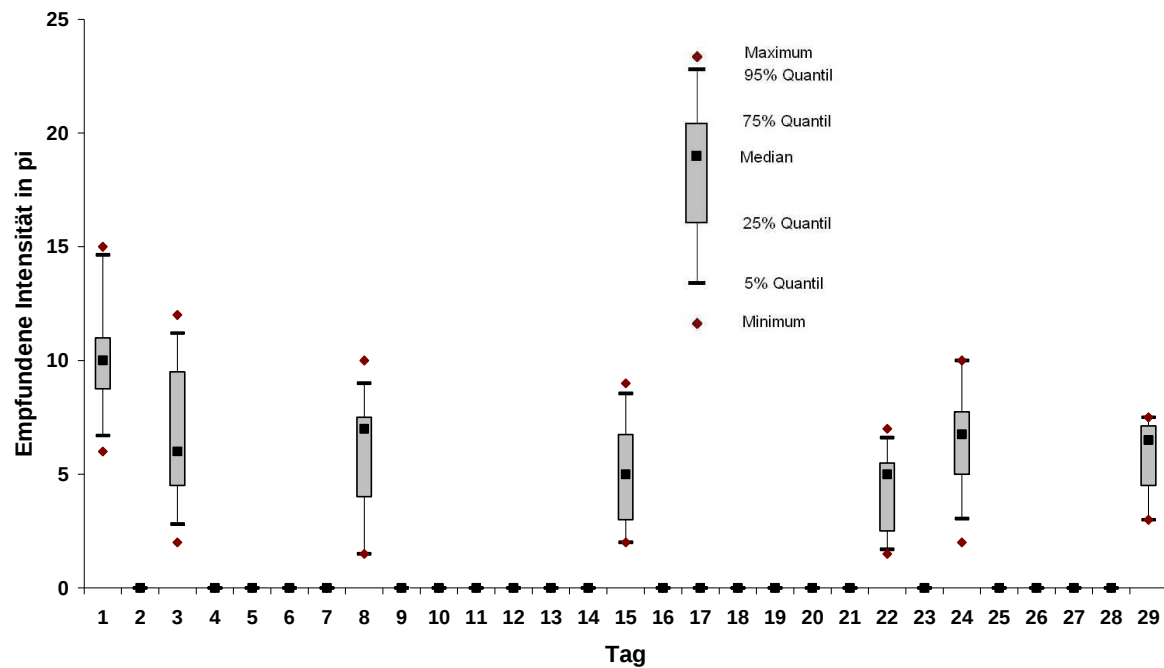


Figure 4159-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

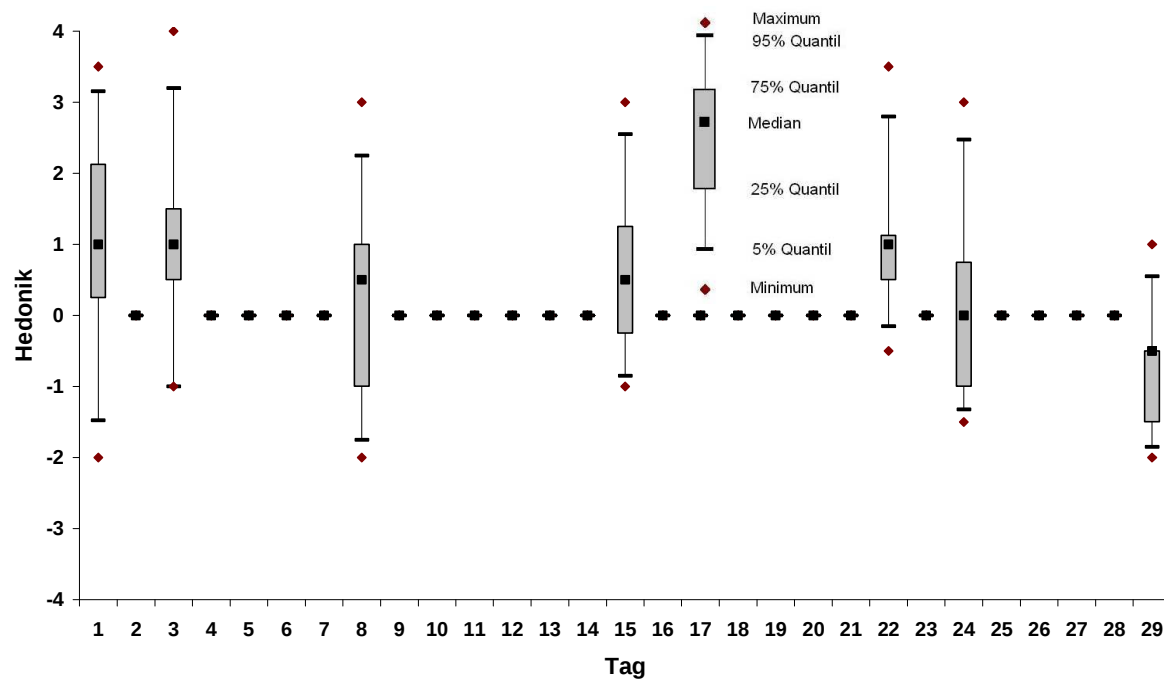


Figure 4159-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

Flooring adhesives

3950 Flooring adhesive 1

Table 3950-1: Concentrations of organic compounds measured in a flooring adhesive; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	7.22	150	64	13	0
Benzol	71-43-2	7.28	2	2	2	1
Butanol	71-36-3	7.33	16	3	5	5
n-Buthyl ether	142-96-1	14.60	24	1	0	0
2-Ethyl-1-Hexanol	104-76-7	17.92	72	14	5	2
1,2-Ethenediol	107-21-1	9.40	57	17	0	0
n-Buthylacrylat	141-32-2	14.93	10	0	0	0
Diethylene glycol	111-46-6	17.02	380	200	230	130
MIT	2682-20-4	20.75	160	68	80	41
Unknown*		19.8	13	1	0	0
Unknown*		20.1	18	3	1	0
Unknown*		21.7	11	2	1	0
Unknown*		23.8	28	8	4	0
Unknown*		26.2	4	1	1	0
TVOC			950	340	340	180

* Generalised name, no exact specification possible

Table 3950-2: Summarised AgBB evaluation of a flooring adhesive according to DIBt reporting mask

Product: 3950	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	934	1 ≤ 10	!! ≤ 0.3	368	≤ 0.5	174	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	3.098	none	!! ≤ 0.5	1.334	!! ≤ 0.5	0.701	≤ 1
≤ VOC or NIK	94	none	≤ 0.05	8	≤ 0.05	0	≤ 0.1
≤ Carcinogenic	2	0 ≤ 0.01	!! ≤ 0.001	0	≤ 0.001	0.7	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

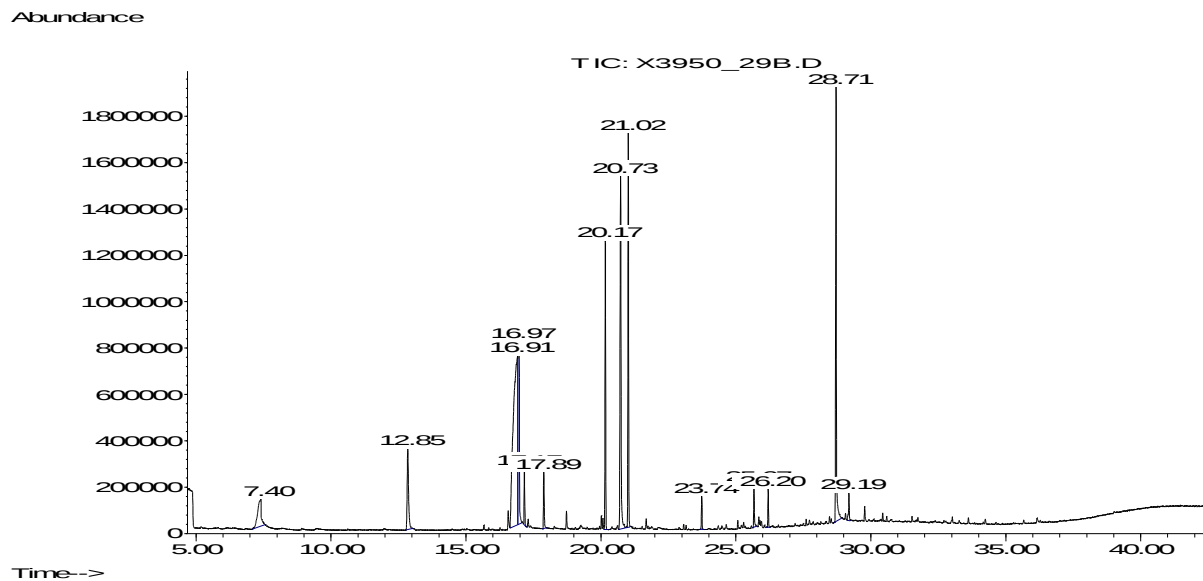


Figure 3950-1: GC/MS chromatogram from day 29 of emissions testing on a flooring adhesive. (Peaks 20.17; 21.02; 28.71 IS)

Table 3950-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	10	13.7	4.4	-2.5	1.4
7	11	11.8	2.3	-2.5	1.4
14	10	11.2	2.9	-2.0	1.2
28	10	8.9	2.2	-1.4	0.9

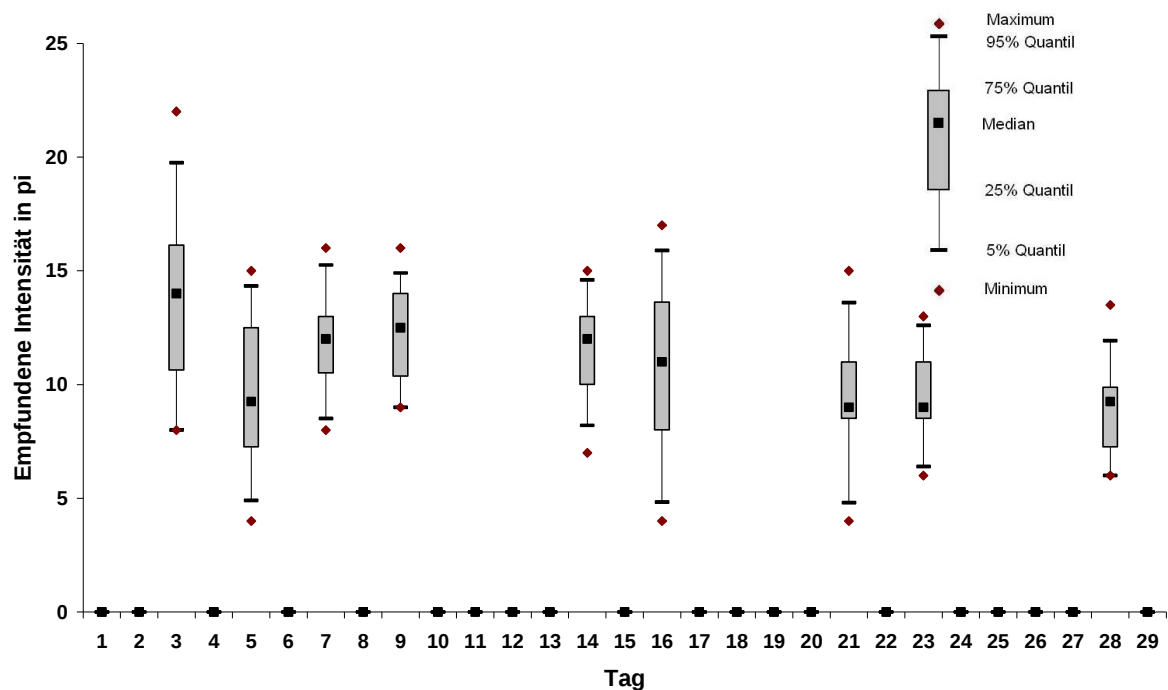
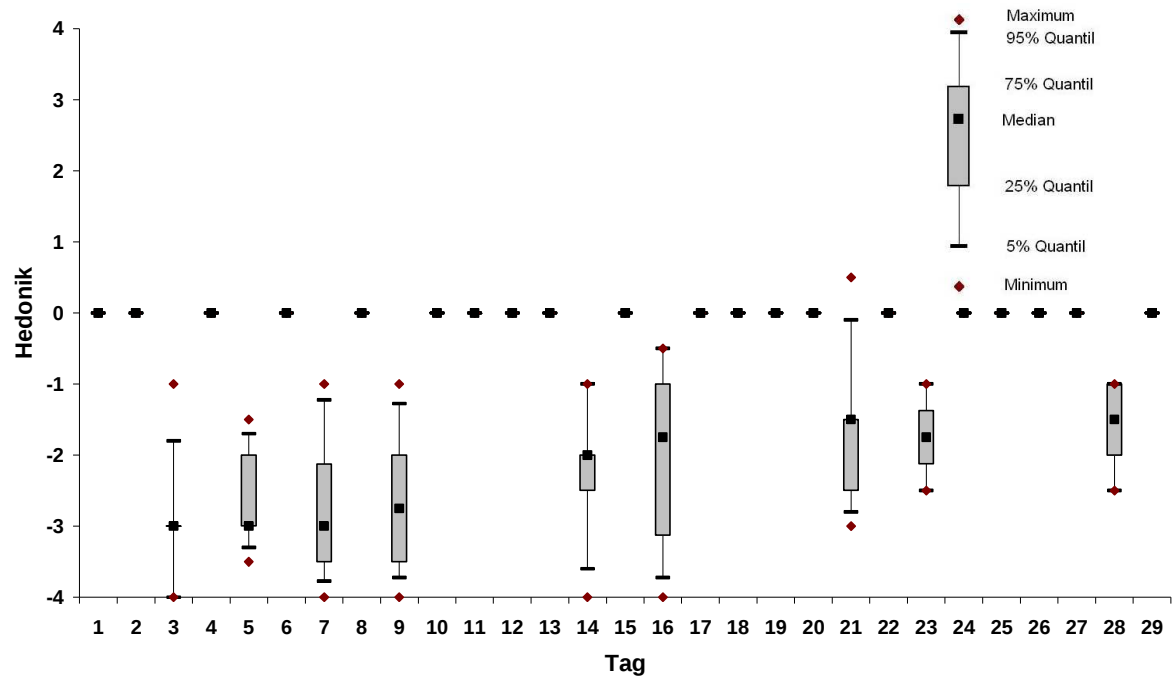


Figure 3950-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)



3977 Flooring adhesive 2

Table 3977-1: Concentrations of organic compounds measured in a flooring adhesive; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.70	70	61	48	46
Hexamethylcyclotrisiloxane	541-05-9	12.80	1100	220	53	110
diPropylene glycol	110-98-5	18.10	4600	2300	910	530
Octamethylcyclotetrasiloxane	556-67-2	17.19	190	91	19	6
Decamethylcyclopentasiloxane	541-02-6	20.04	170	62	16	3
Diisopropylanthralene	24157-81-1	28.80	84	130	85	83
Unknown*		18.62	940	600	240	141
Unknown*		19.05	110	70	35	17
Unknown*		20.25	12	3		
Unknown*		20.31	11	3		
Unknown*		21.80	71	22	9	6
Unknown*		23.08	300	110	45	22
Unknown*		24.20	40	24	13	
Unknown*		24.83	60	21	10	
Unknown*		25.95	150	74	30	14
TVOC			7900	3800	1500	970

* Generalised name, no exact specification possible

Table 3977-2: Summarised AgBB evaluation of a flooring adhesive according to DIBt reporting mask

Product: 3977	3 Days			7 Days			28 Days	
ADAM_2008_04	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3	
TVOC ($\text{C}_6 - \text{C}_{16}$)	7934	8 ≤ 10	!! ≤ 0.3	3821	!! ≤ 0.5	966		≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0		≤ 0.1
R (dimensionless)	1.630	none	!! ≤ 0.5	0.857	!! ≤ 0.5	0.226		≤ 1
≤ VOC or NIK	3032	none	!! ≤ 0.05	1324	!! ≤ 0.05	388	!!	≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0		≤ 0.001
This block provides additional information								
VVOC ($< \text{C}_6$)	0	Input value manually!			0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)								
Toluene equivalent								

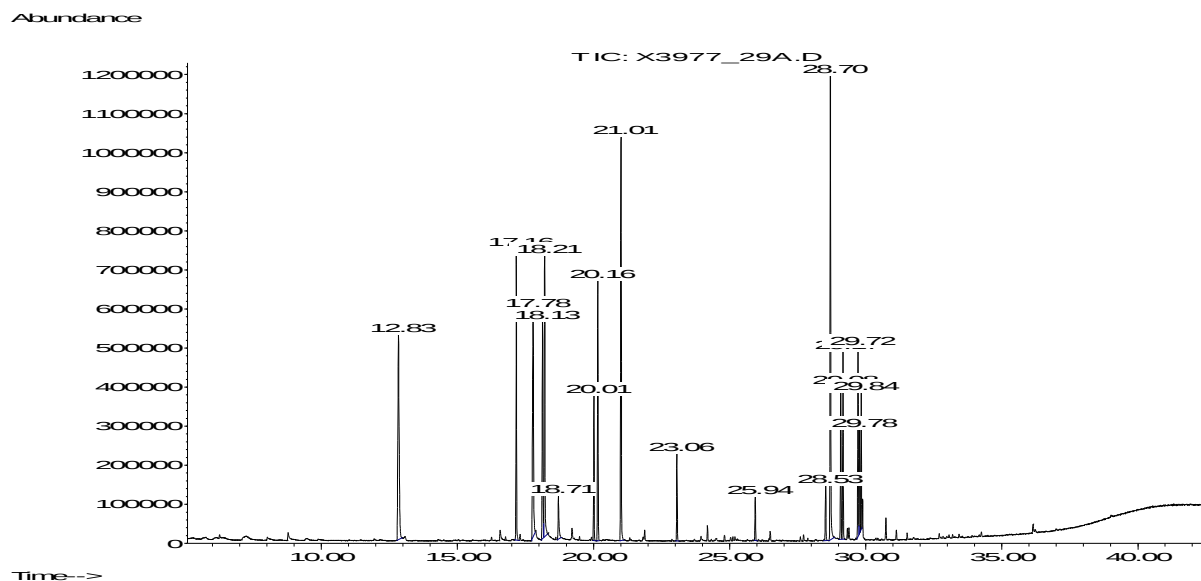


Figure 3977-1: GC/MS chromatogram from day 29 of emissions testing on a flooring adhesive. (Peaks 20.17; 21.02; 28.71 IS)

Table 3977-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	8	12.4	5.1	-2.6	1.1
8	8	11.1	3.1	-2.4	1.3
15	7	10.4	4.6	-2.1	1.2
29	8	10.3	3.4	-1.9	1.0

Table 3977-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
4	17	-5.9	4.6	-2.0	2.2
10	14	-5.4	3.3	-2.1	1.9
17	12	-4.1	4.2	-1.9	1.4
31	17	-3.8	4.8	-1.4	2.1

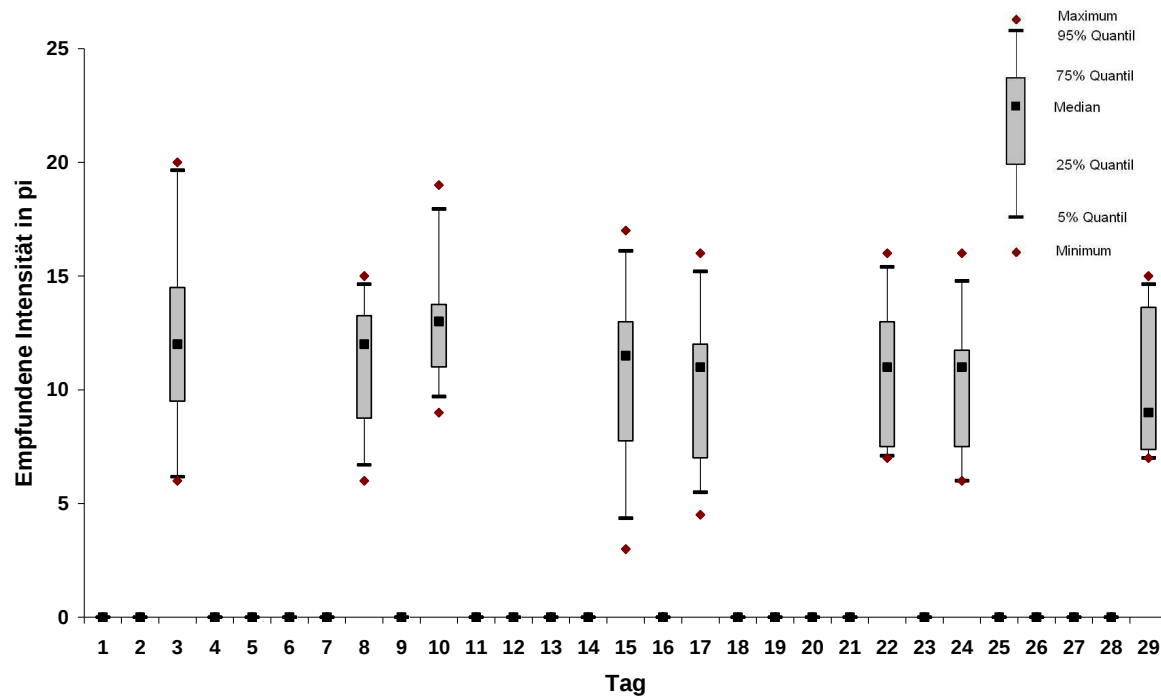


Figure 3977-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

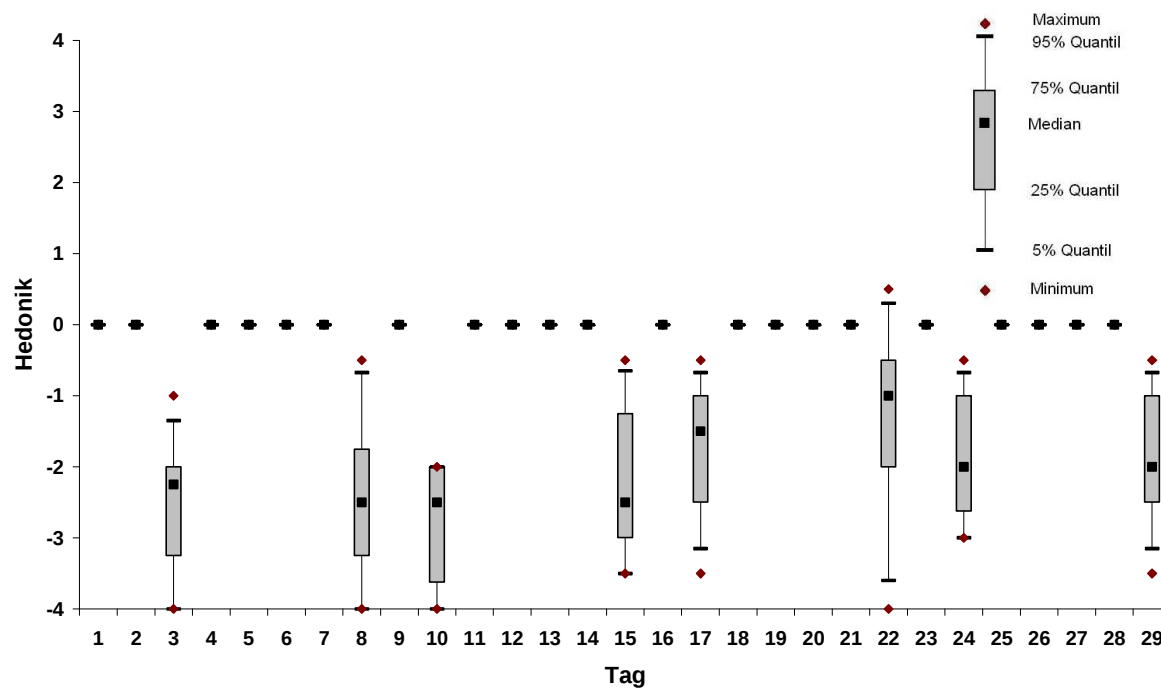


Figure 3977-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

3978 Flooring adhesive 3

Table 3978-1: Concentrations of organic compounds measured in a flooring adhesive; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.59	1500	1000	404	250
1-Butanol	71-36-3	7.03	59	-	-	-
Ethylene glycol (Ethanediol))	107-21-1	8.79	220	85	54	26
Propylene glycol (1.2-Dihydroxypropan)	57-55-6	10.20	67	2	-	-
Diethylene glycol	111-46-6	16.67	240	200	150	112
2-Ethyl-1-hexanol	104-76-7	17.83	91	47	10	-
2-Ethylhexylacetate	103-09-3	20.02	62	11	2	-
2-Methyl-4-isothiazolin-3-one	2682-20-4	20.63	130	100	65	29
Unknown*		21.60	43	14	2	-
TVOC			2500	1500	690	420

* Generalised name, no exact specification possible

Table 3978-2: Summarised AgBB evaluation of a flooring adhesive according to DIBt reporting mask

Product: 3978	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	2451	2 ≤ 10	!! ≤ 0.3	1479	!! ≤ 0.5	141	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	6.149	none	!! ≤ 0.5	3.853	!! ≤ 0.5	1.137	!! ≤ 1
≤ VOC or NIK	43	none	≤ 0.05	14	≤ 0.05	0	≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

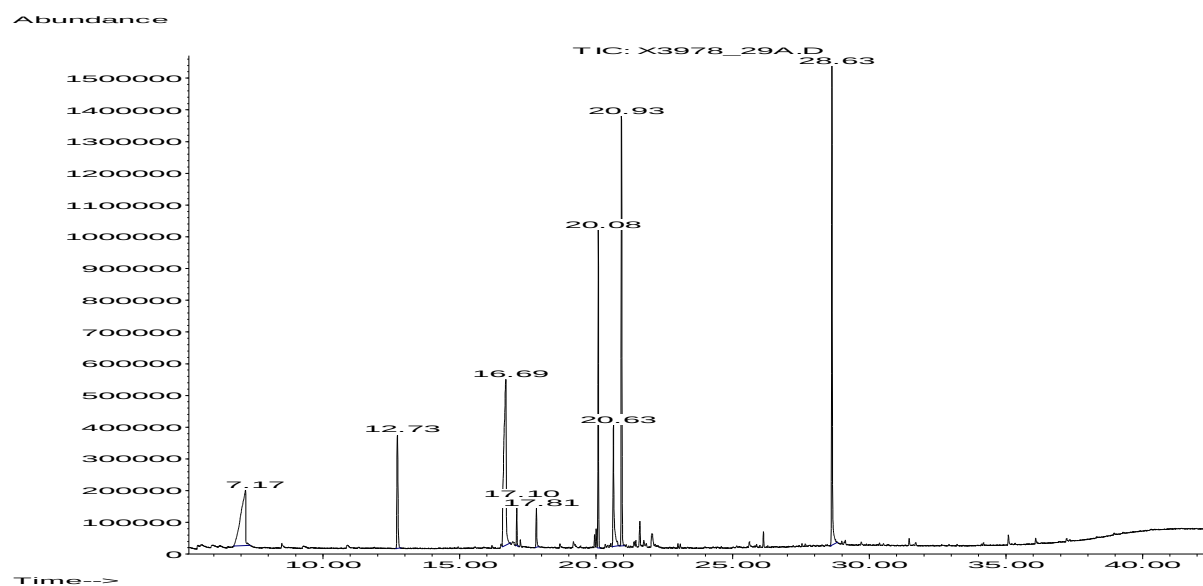


Figure 3978-1: GC/MS chromatogram from day 29 of emissions testing on a flooring adhesive. (Peaks 20.17; 21.02; 28.71 IS)

Table 3978-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	9	12.5	3.3	-2.1	1.1
3	10	9.7	2.5	-1.2	1.5
8	10	7.8	2.8	-0.9	1.1
14	13	6.1	3.4	-0.9	0.9
28	12	7.1	2.5	-1.4	1.4

Table 3978-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	15	-4.7	3.5	-1.7	1.2
9	17	-2.4	4.4	-1.1	1.3
16	17	-2.3	4.9	-1.1	1.8
30	20	-2.5	2.8	-1.2	0.7

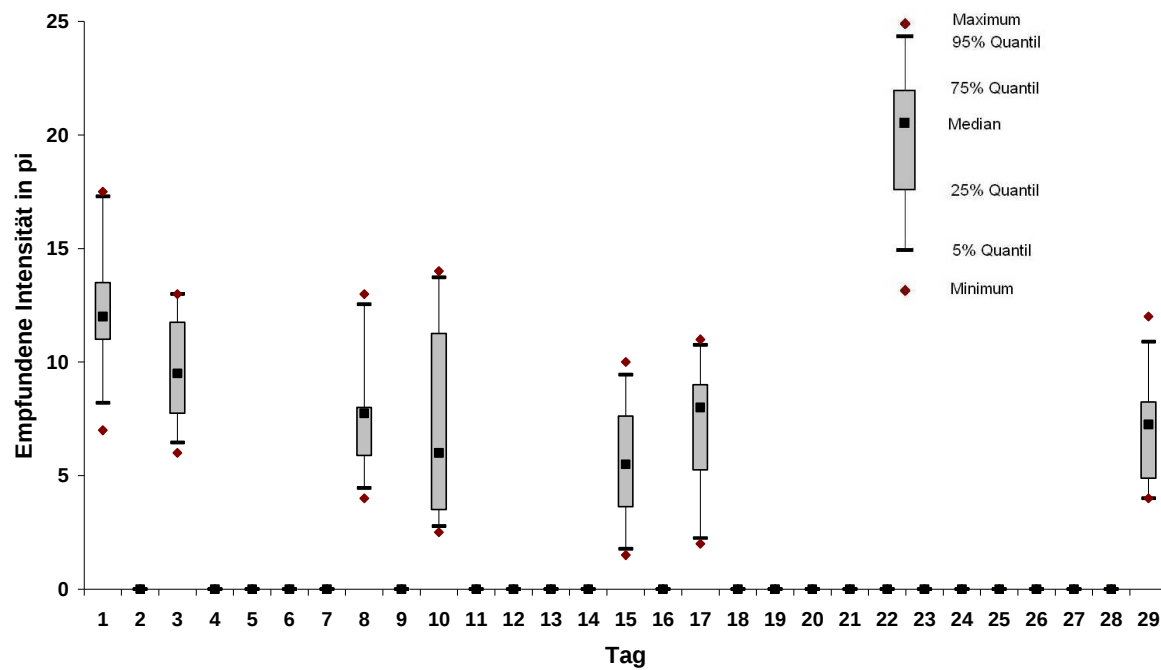


Figure 3978-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

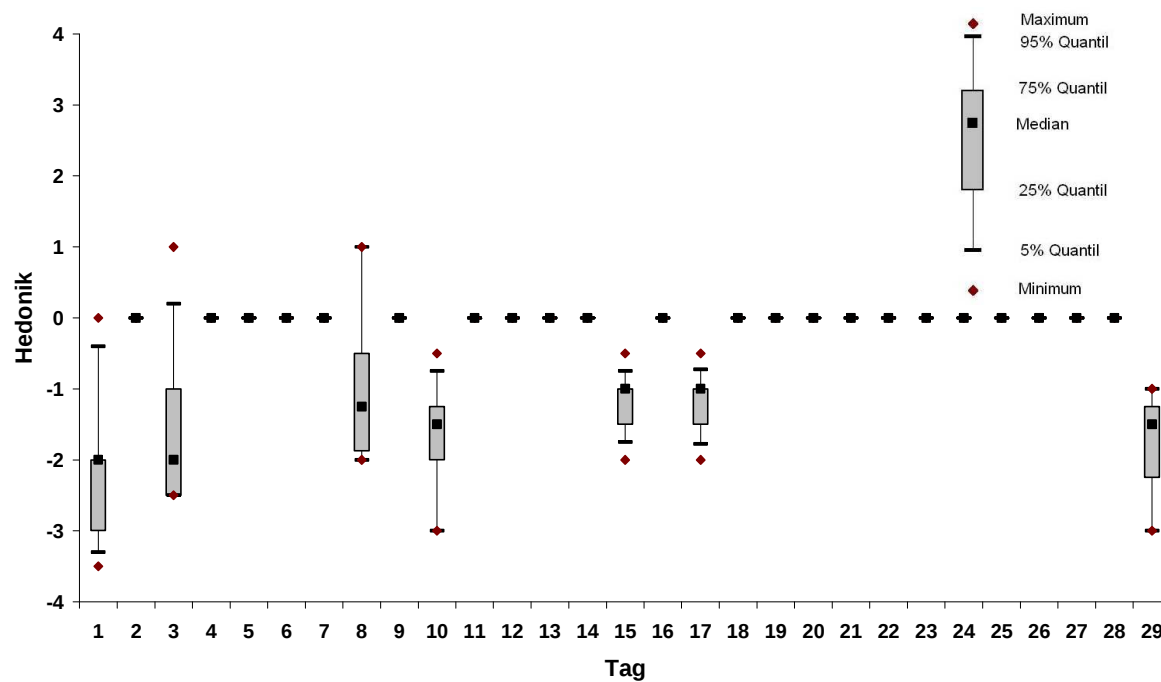


Figure 3978-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4003 Flooring adhesive 4

Table 4003-1: Concentrations of organic compounds measured in a flooring adhesive; CLIMPAQ-HRI, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.59	1600	1500	600	370
Propylene glycol (1,2-Dihydroxypropan)	57-55-6	8.00	50	40	19	21
1-Butylacetate	123-86-4	12.64	36	7	2.6	3
N-Butylether	142-96-1	14.68	47	7	1	2
Cyclohexanone	108-94-1	14.91	140	15	3	2
α -Pinene	80-56-8	15.96	110	60	26	5
β -Pinene	127-91-3	16.98	140	74	34	5
2-Ethyl-1-hexanol	104-76-7	17.83	270	190	76	23
Limonene	138-86-3	18.00	36	16	7	2
2-Ethylhexylacetate	103-09-3	20.02	60	30	5	-
Benzothiazole	95-16-9	21.80	3	4	4	5
Longifolene	475-20-7	25.11	12	11	5	2
Total unknown VOC*		20-22	1000	740	300	91
Total unknown SVOC*		25-26	74	93	58	25
TVOC			3500	2700	1100	530

* Generalised name, no exact specification possible

Table 4003-2: Summarised AgBB evaluation of a flooring adhesive according to DIBt reporting mask

Product: 4003	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	Abort criteria mg/m^3	Amt. $\mu\text{g}/\text{m}^3$	AgBB Requirements mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	3540	4 ≤ 10	!! ≤ 0.3	2650	!! ≤ 0.5	520	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	74	none	!! ≤ 0.03	93	!! ≤ 0.05	25	≤ 0.1
R (dimensionless)	4.192	none	!! ≤ 0.5	3.395	!! ≤ 0.5	0.833	≤ 1
$\leq$ VOC or NIK	1084	none	!! ≤ 0.05	744	!! ≤ 0.05	96	≤ 0.1
$\leq$ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

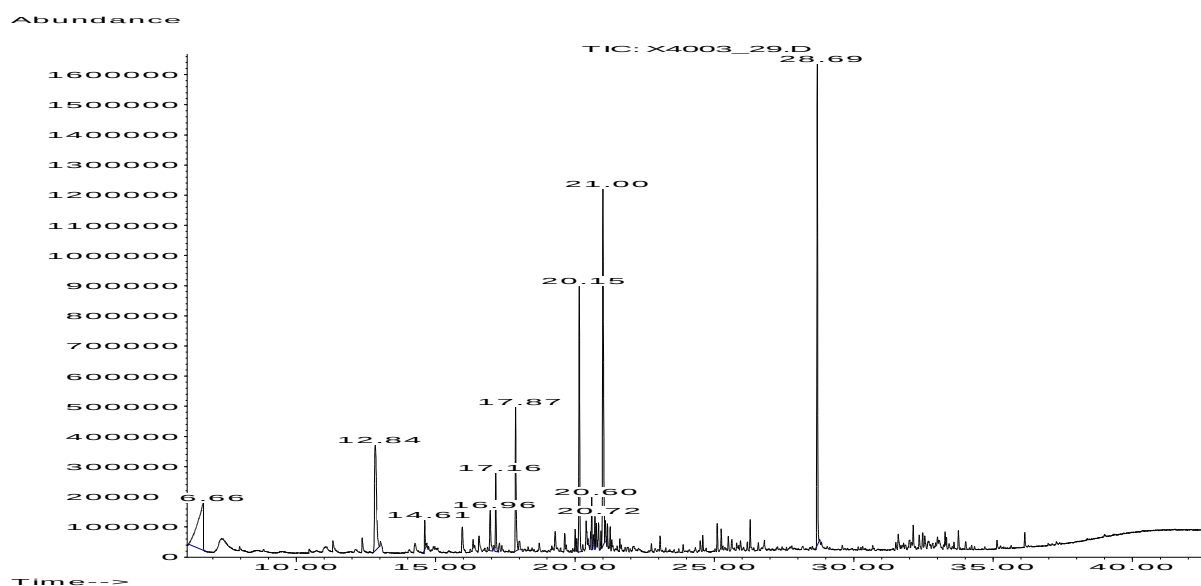


Figure 4003-1: GC/MS chromatogram from day 29 of emissions testing on a flooring adhesive. (Peaks 20.17; 21.02; 28.71 IS)

Table 4003-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	6	20.3	4.4	-3.3	0.8
8	9	14.7	4.4	-2.9	1.0
15	9	14.0	3.4	-2.3	0.8
29	8	11.6	3.1	-2.1	0.8

Table 4003-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
8	20	-4.6	5.5	-2.0	2.1
15	20	-4.9	5.2	-2.0	2.0
30	22	-3.7	5.2	-1.7	1.9

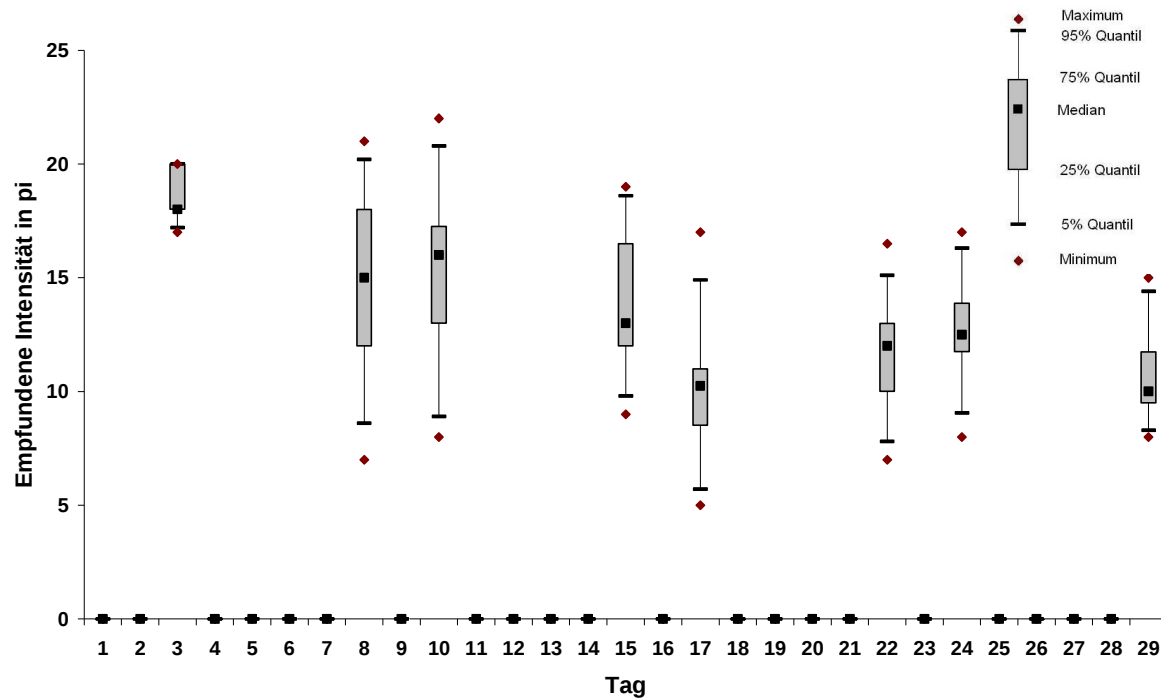


Figure 4003-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

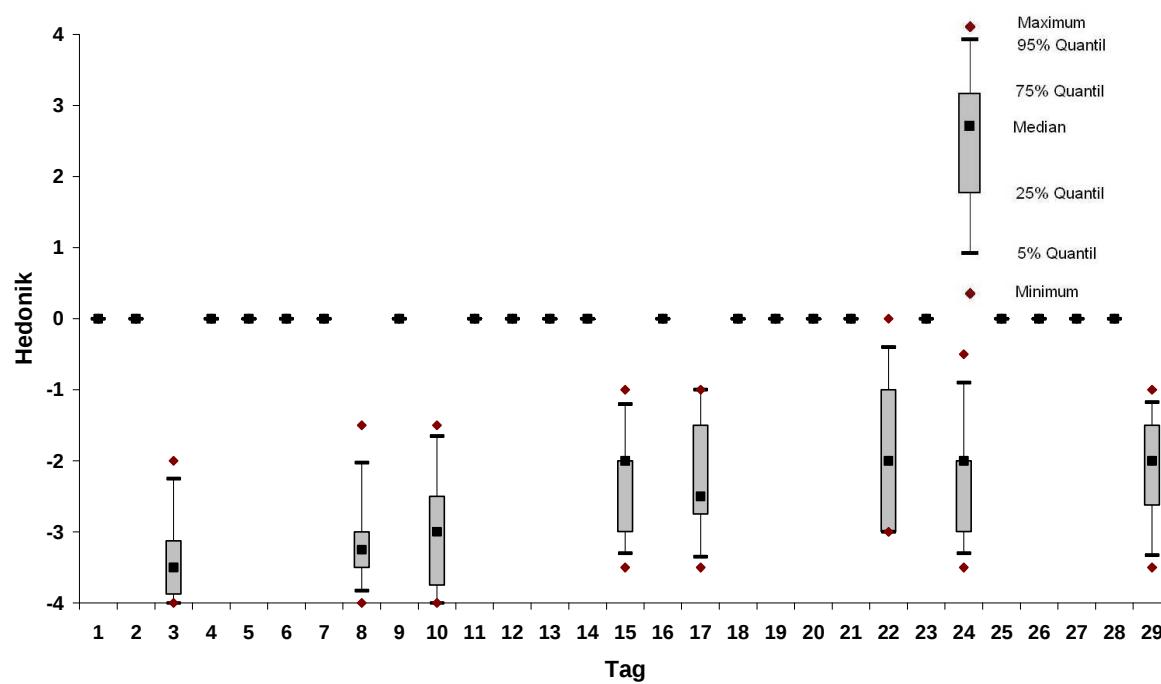


Figure 4003-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4033 Flooring adhesive 5

Table 4033-1: Concentrations of organic compounds measured in a flooring adhesive; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetic acid	64-19-7	6.29	370	180	81	55
Ethylene glycol (Ethanediol))	107-21-1	9.09	110	30		
DiPropylene glycol	110-98-5	10.50	19	12		
1-Butylacetate	123-86-4	12.58	3			
Hexamethylcyclotrisiloxane	541-05-9	12.80	30	21	18	33
Diethylene glycol	111-46-6	16.65	57	56	53	
2-Ethyl-1-hexanol	104-76-7	17.87	160	71	28	13
Styrene	100-42-5	14.82	2		2	
Cyclohexanone	108-94-1	14.90	7			
α -Pinene	80-56-8	15.49	7	5	3	
Limonene	138-86-3	17.97	6	6		
Ethylhexylacetate	203-079-1	20.50	25	5		
Benzothiazole	95-16-9	21.79	5	5	3	4
Unknown*		21.10	14	6	3	2
Unknown*		21.65	13	8	5	3
Unknown*		24.48	8	6	3	
Longifolene	475-20-7	25.09	23	12	7	4
Unknown*		26.27	10	11	7	4
Unknown*		32.11	14	11	8	11
Unknown* total 31-33		31-33	62	77	74	80
TVOC			950	520	290	210

* Generalised name, no exact specification possible

Table 4033-2: Summarised AgBB evaluation of a flooring adhesive according to DIBt reporting mask

Product: 4033	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	937	1 ≤ 10	!! ≤ 0.3	510	≤ 0.5	192	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	1.491	none	!! ≤ 0.5	0.690	!! ≤ 0.5	0.122	≤ 1
≤ VOC or NIK	176	none	!! ≤ 0.05	140	!! ≤ 0.05	124	!! ≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

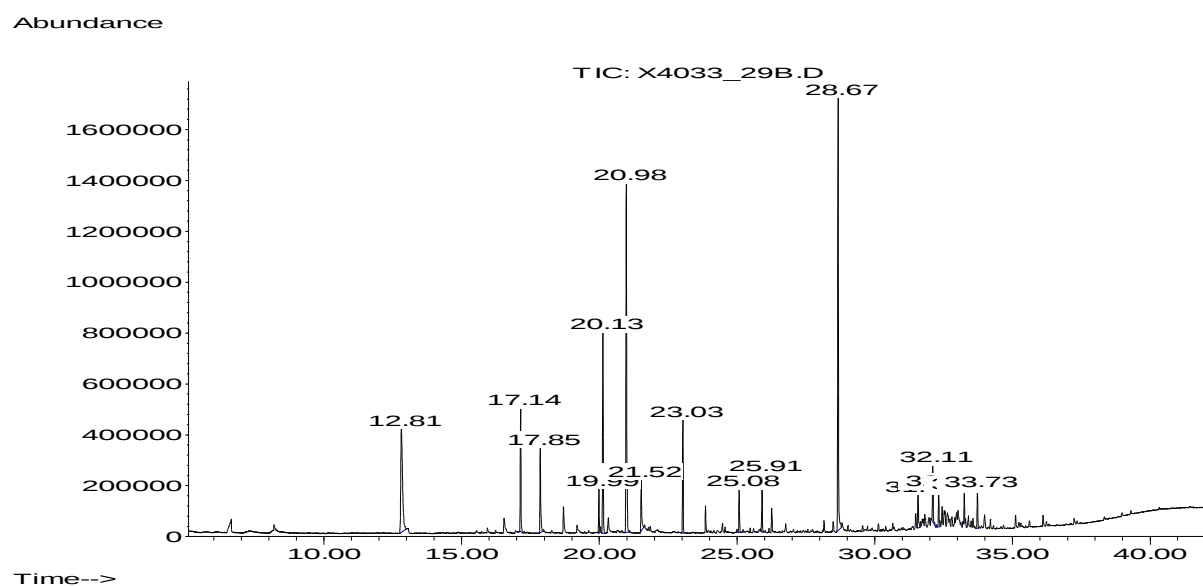


Figure 4033-1: GC/MS chromatogram from day 29 of emissions testing on a flooring adhesive. (Peaks 20.17; 21.02; 28.71 IS)

Table 4033-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	9	14.0	3.5	-2.2	1.5
3	9	11.9	2.8	-2.1	0.9
8	11	11.8	2.8	-1.7	1.5
15	10	12.0	3.4	-2.1	1.0
29	11	8.8	3.1	-0.8	1.3

Table 4033-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	20	-4.3	4.7	-1.6	1.8
9	20	-2.6	5.0	-1.3	1.6
16	18	-4.8	4.0	-1.7	1.6
30	14	-3.9	4.9	-1.7	1.9

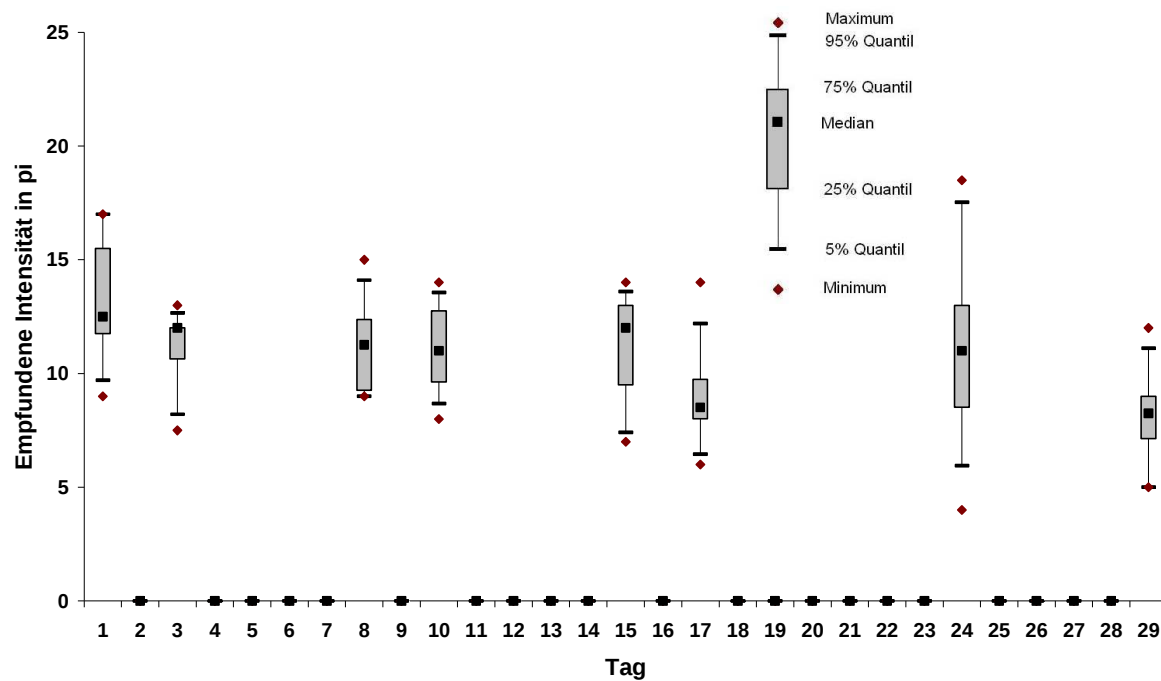


Figure 4033-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

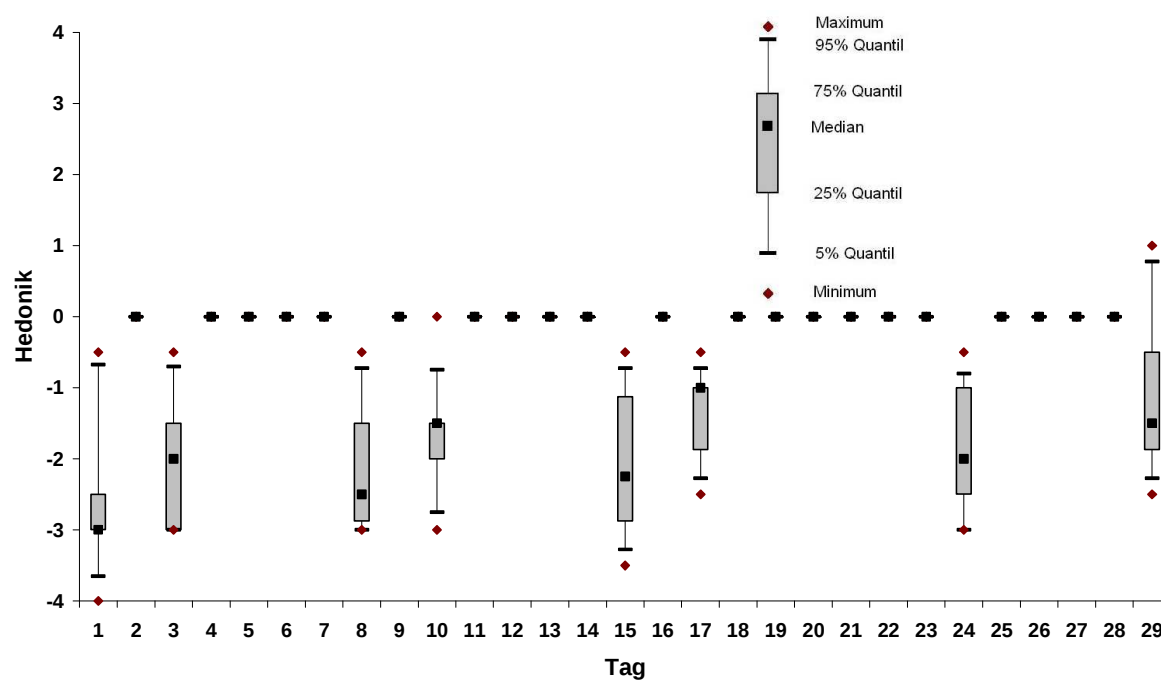


Figure 4033-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4040 Flooring adhesive 6

Table 4040-1: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	9	12.0	3.3	-2.5	0.8
7	11	11.2	3.5	-2.1	0.9
15	10	10.0	3.3	-1.9	0.9
29	12	9.0	3.5	-0.8	1.0

Table 4040-2: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	12	-6.2	4.3	-1.1	2.8
9	20	-1.5	5.4	-0.5	2.1
16	18	-2.6	5.7	-1.1	2.1
30	14	-2.4	4.7	-0.9	1.9

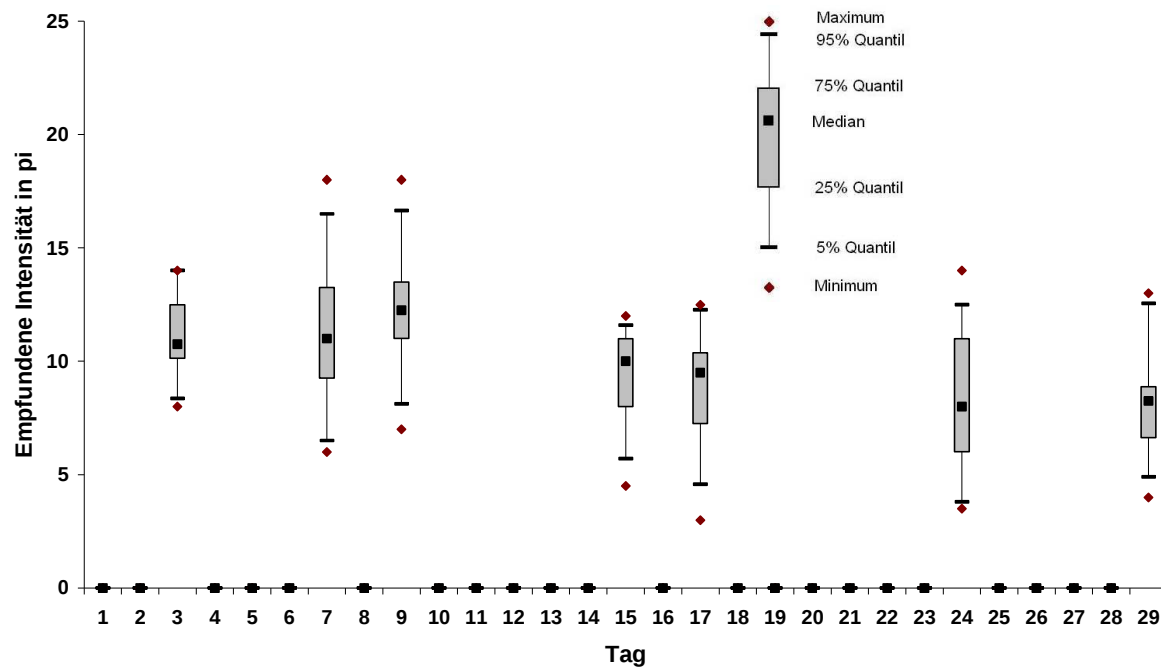
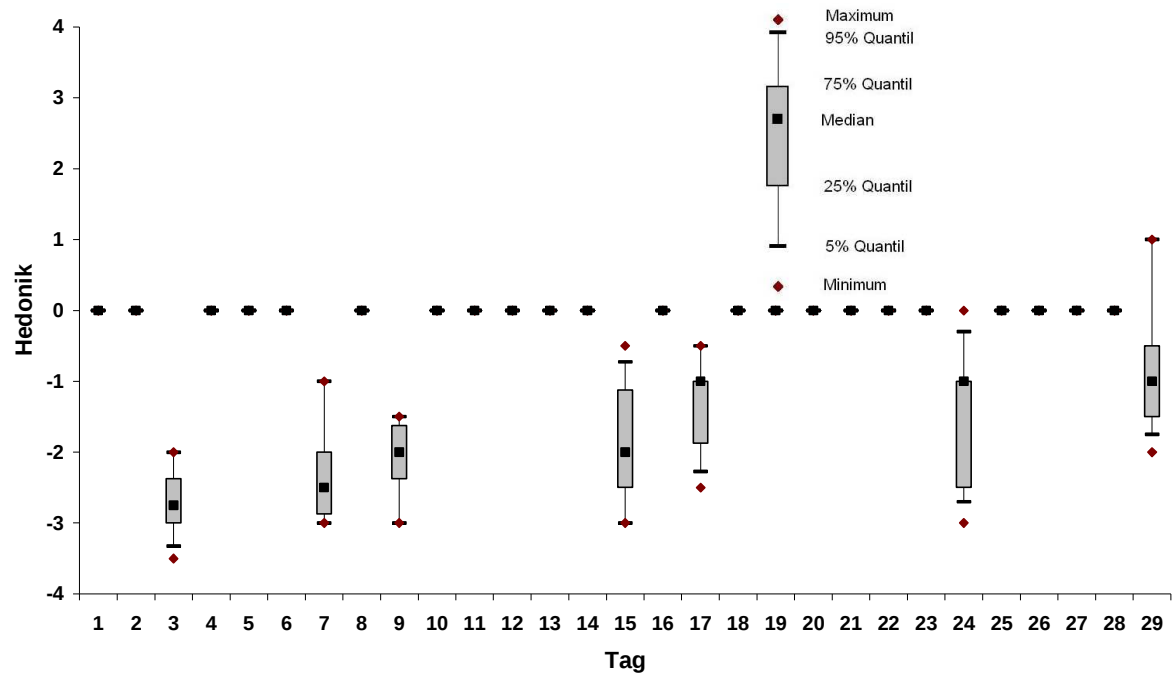


Figure 4040-1: Change in perceived intensity over the testing period (CLIMPAQ-HRI)



4061 Flooring adhesive 7**Table 4061-1: Concentrations of organic compounds measured in a flooring adhesive; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Formaldehyde	50-00-0		3			3
Acetone		6	2	-	-	55
Acetic acid	64-19-7	6.59	1400	590	110	160
Ethylene glycol (Ethanediol))	107-21-1	8.79	110	66		34
DiPropylene glycol	111-46-6	16.67	66	59	41	29
2-Ethyl-1-hexanol	104-76-7	17.83	250	76	17	16
2-Ethylhexylacetate	103-09-3	20.02	90	18		
2-Methyl-4-isothiazolin-3-one	2682-20-4	20.63	11	9	7	2
Diethylene glycol-monobutylether	112-34-5	20.58	2			
Triethylene glycol	112-27-6	21.49	110	130	100	94
TVOC			2000	950	280	340

Table 4061-2: Summarised AgBB evaluation of a flooring adhesive according to DIBt reporting mask

Product: 4061	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	2013	2 ≤ 10	!! ≤ 0.3	942	!! ≤ 0.5	332	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	3.747	none	!! ≤ 0.5	1.736	!! ≤ 0.5	0.530	≤ 1
≤ VOC or NIK	106	none	!! ≤ 0.05	126	!! ≤ 0.05	94	≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

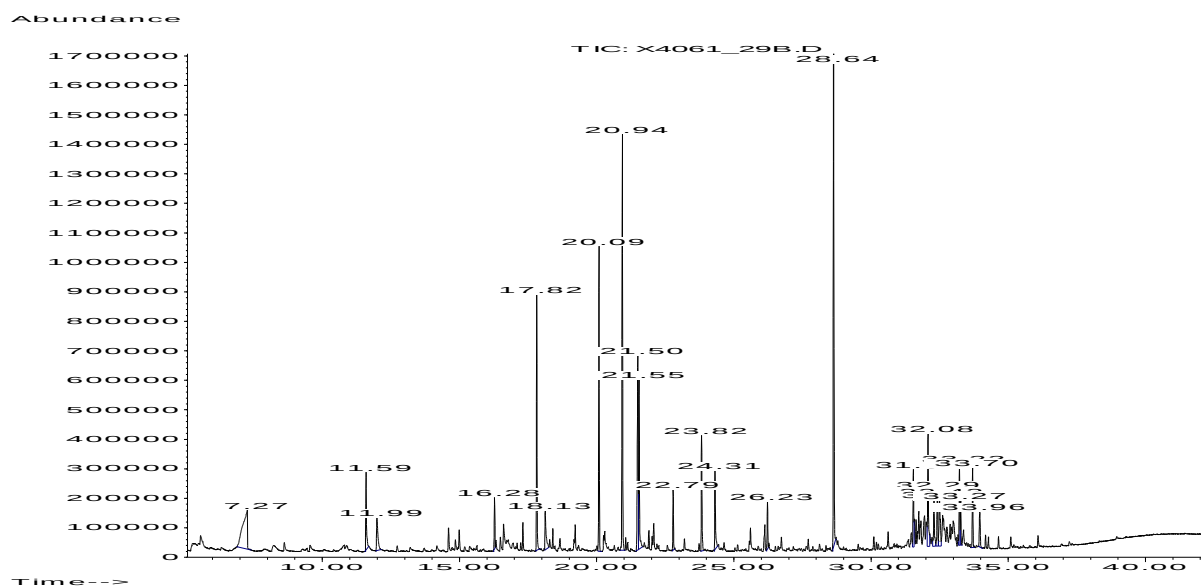


Figure 4061-1: GC/MS chromatogram from day 29 of emissions testing on a flooring adhesive. (Peaks 20.17; 21.02; 28.71 IS)

Table 4061-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	10	12.8	3.2	-1.3	1.7
3	11	11.9	3.7	-1.4	1.4
8	11	11.8	3.4	-1.1	1.6
15	13	10.4	2.9	-1.3	1.5
29	12	12.5	2.3	-1.9	1.3

Table 4061-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	15	-4.5	3.7	-1.8	1.4
9	17	-4.2	4.9	-1.9	1.3
16	17	-4.2	3.4	-1.8	1.4
30	20	-4.0	4.0	-2.0	1.0

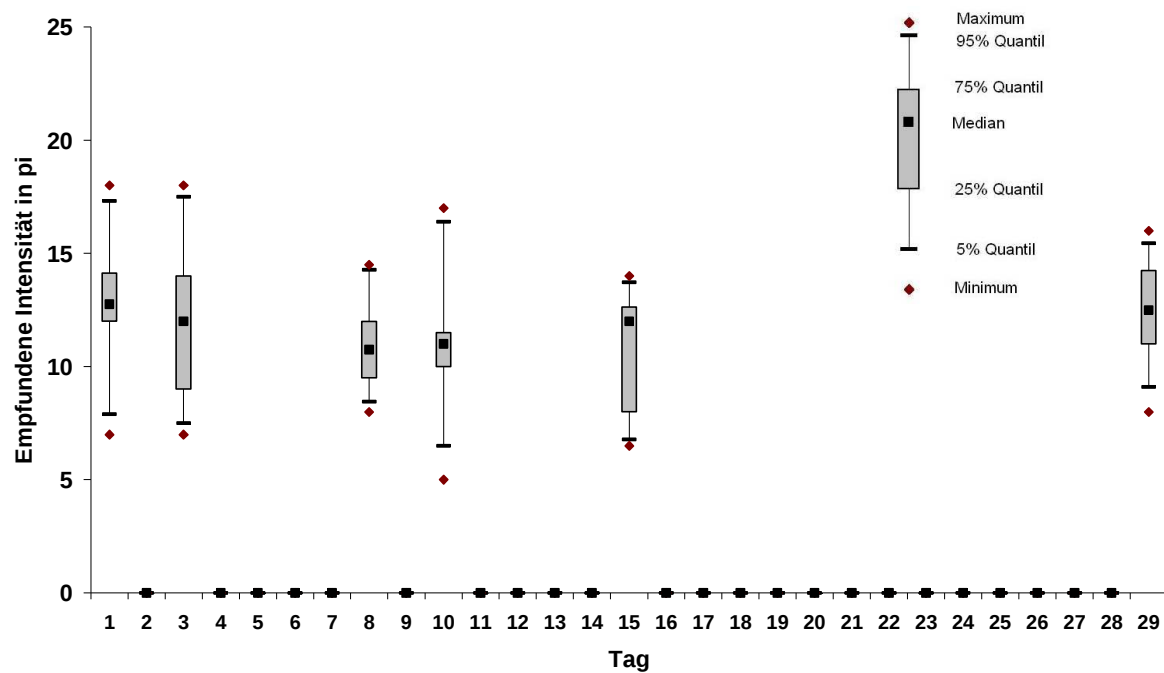


Figure 4061-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

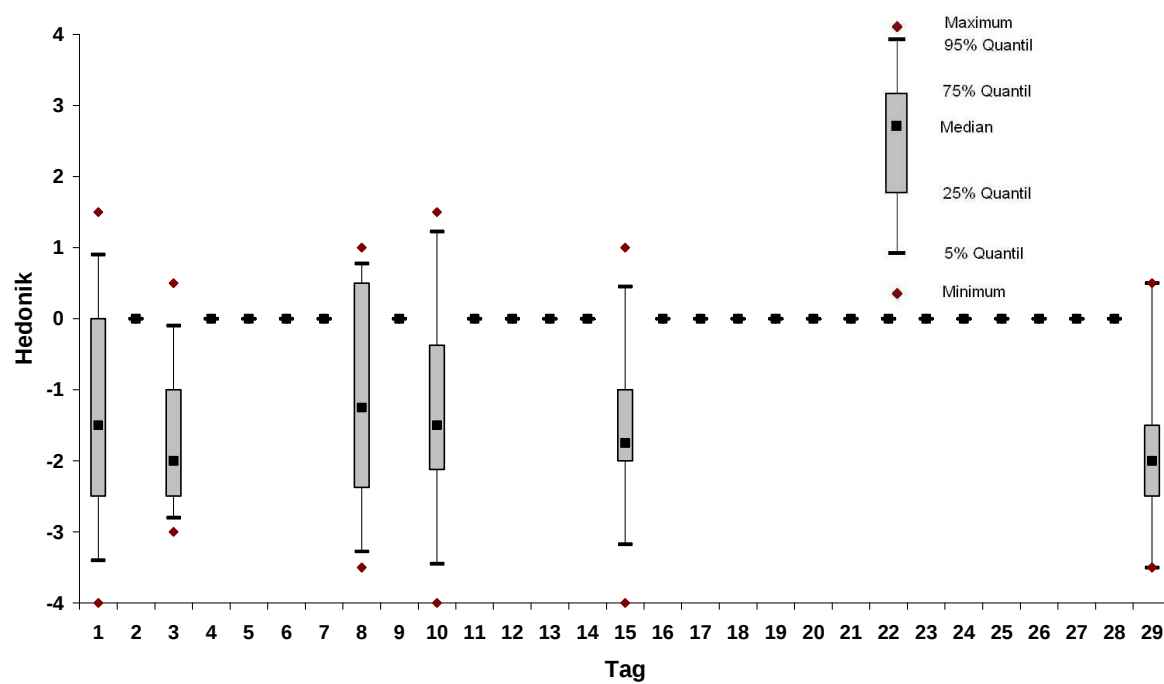


Figure 4061-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4290 Flooring adhesive 8**Table 4290-1: Concentrations of organic compounds measured in a mounting adhesive; 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Propylene glycol	107-21-1	3.25	110	66		34
Tetramethyl-4-PiperidinoI* (t.e.)	2403-88-5	17.64	490	310	110	4
Decanoic acid, methyl ester(t.e.)	110-42-9	20.55	250	76	17	16
Butylated Hydroxytoluene	128-37-0	21.78	90	18		
Decanedioic acid, dimethyl ester (t.e.)	106-79-6	22.37	11	9	7	2
TVOC			560	370	160	20

* no exact specification possible

t.e.: Toluene equivalent

Table 4290-2: Summarised AgBB evaluation of a mounting adhesive according to DIBt reporting mask

Product: 4290	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	558	1 ≤ 10	!! ≤ 0.3	367	≤ 0.5	13	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	0.471	none	≤ 0.5	0.458	≤ 0.5	0.128	≤ 1
≤ VOC or NIK	506	none	!! ≤ 0.05	321	!! ≤ 0.05	0	≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

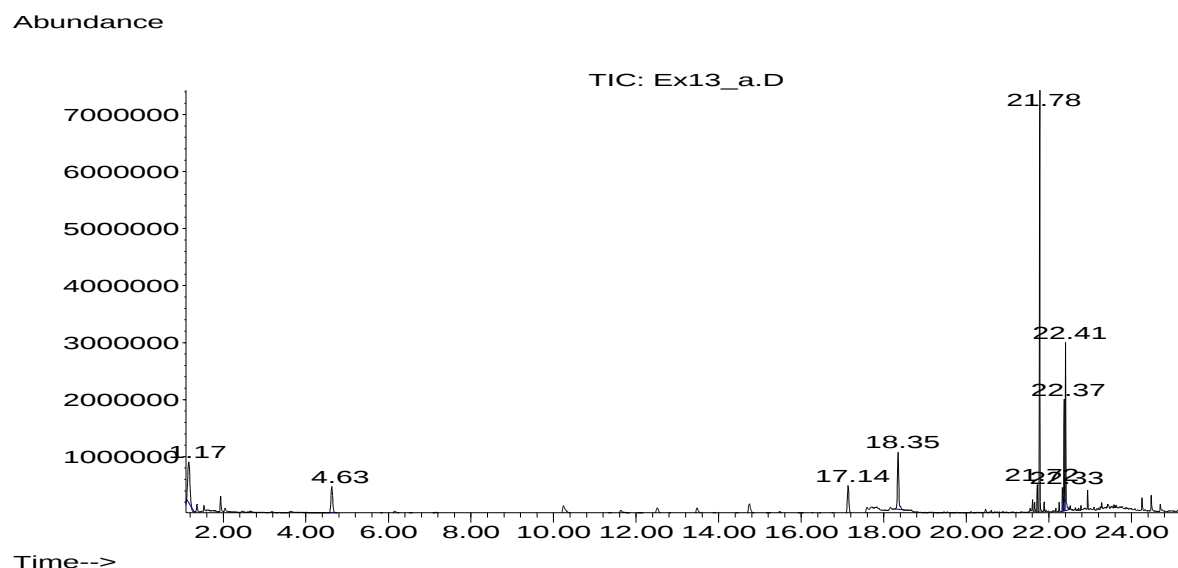


Figure 4290-1: GC/MS chromatogram from day 29 of emissions testing on a mounting adhesive. (Peaks 20.17; 21.02; 28.71 IS)

Table 4290-3: Summarised data from odour testing – panel with comparative scale (EXSI-BAM/PB)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
7	5	6.3	2.6	-0.6	1.9
14	-	-	-	-	-
28	6	8.0	3.7	-2.3	1.8

Table 4290-4: Summarised data from odour testing – panel without comparative scale (EXSI-BAM/PB)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
8	21	-1.9	4.9	-0.8	1.4
14	-	-	-	-	-
29	25	-0.3	4.1	-0.2	1.5

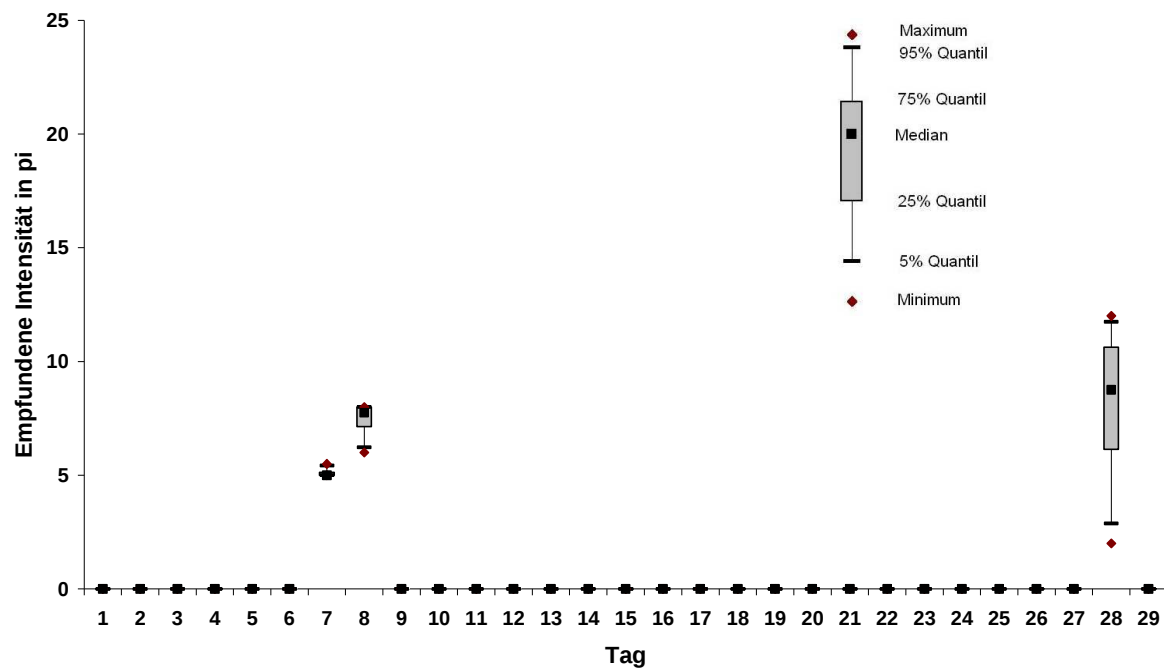


Figure 4290-2: Change in perceived intensity over the testing period (EXSI-BAM/PB)

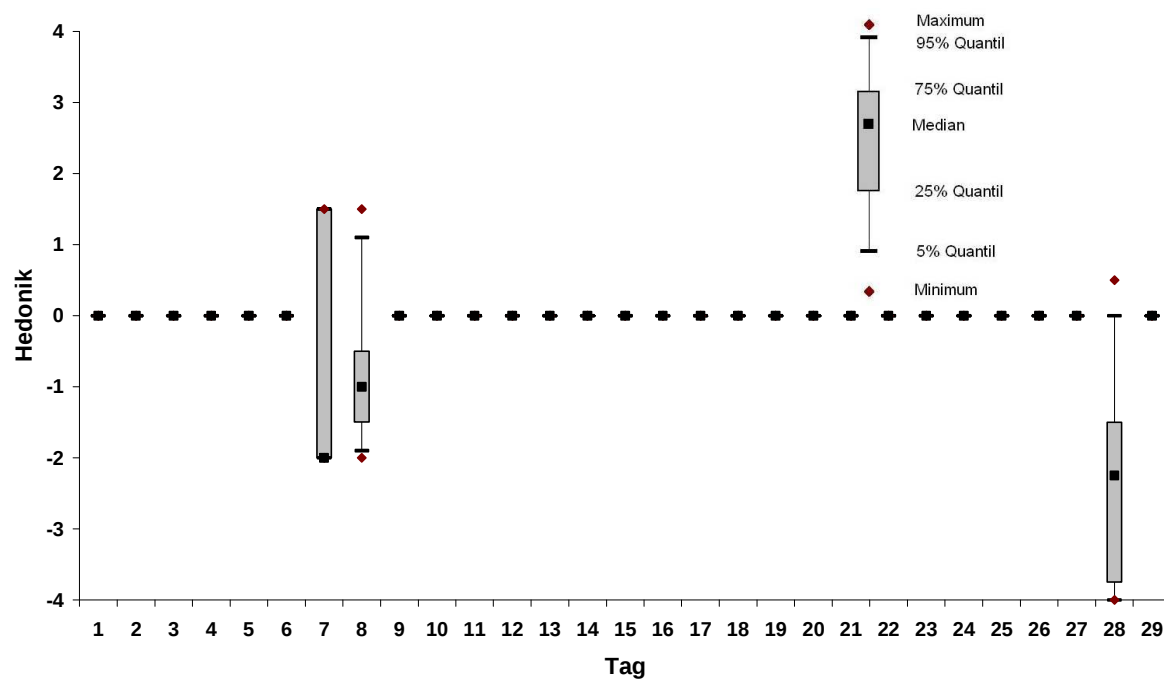


Figure 4290-3: Change in hedonics over the testing period (EXSI-BAM/PB)

Other building products

3949 Levelling compound

Table 3949-1: Concentrations of organic compounds measuring in a levelling compound; 24-litre chamber, $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Aliphatic hydrocarbons* $\leq \text{C}_{16}$		31-34	50	4	-	-
Aliphatic hydrocarbons* $> \text{C}_{16}$	556-67-2	34-41	240	140	62	45
TVOC			50	4	-	-

* Generalised name, no exact specification possible

Table 3949-2: Summarised AgBB evaluation of a levelling compound according to DIBt reporting mask

Product: 3949	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	50	$0.05 \leq 10$	≤ 0.3	0	≤ 0.5	0	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	238	none	!! ≤ 0.03	141	!! ≤ 0.05	45	≤ 0.1
R (dimensionless)	0.008	none	≤ 0.5	0.000	≤ 0.5	0.000	≤ 1
$\leq$ VOC or NIK	0	none	≤ 0.05	0	≤ 0.05	0	≤ 0.1
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

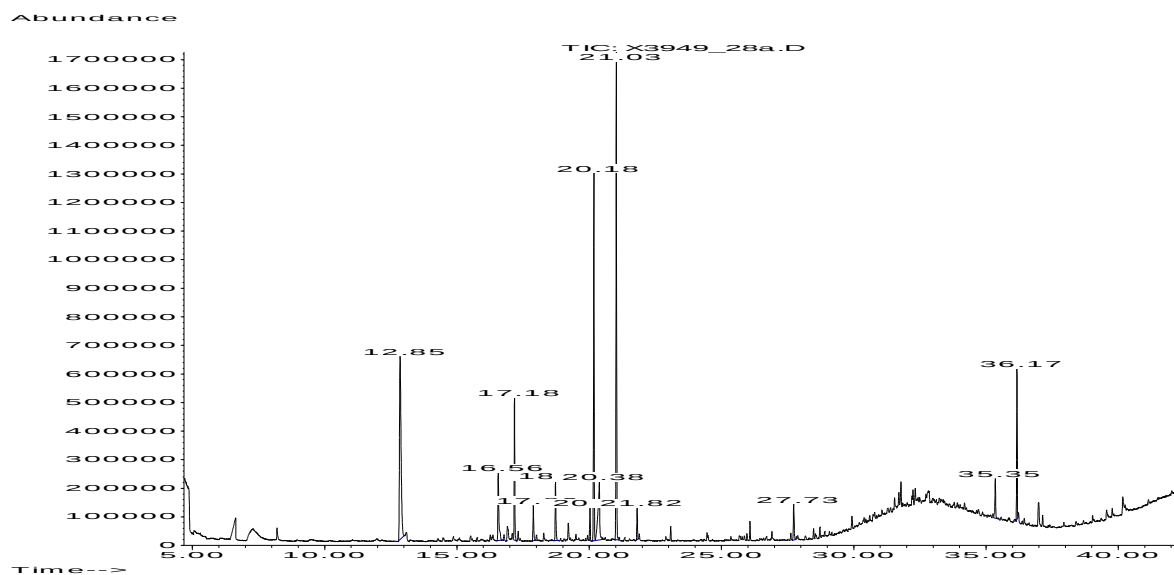


Figure 3949-1: GC/MS chromatogram from day 29 of emissions testing on a levelling compound. (Peaks 25.33; 26.50;35.06 IS)

Table 3949-3: Summarised data of odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	11	14.0	3.1	-2.6	1.5
7	12	14.3	2.8	-2.3	0.7
14	10	13.6	2.7	-2.9	0.8
28	11	13.3	2.2	-2.3	1.4

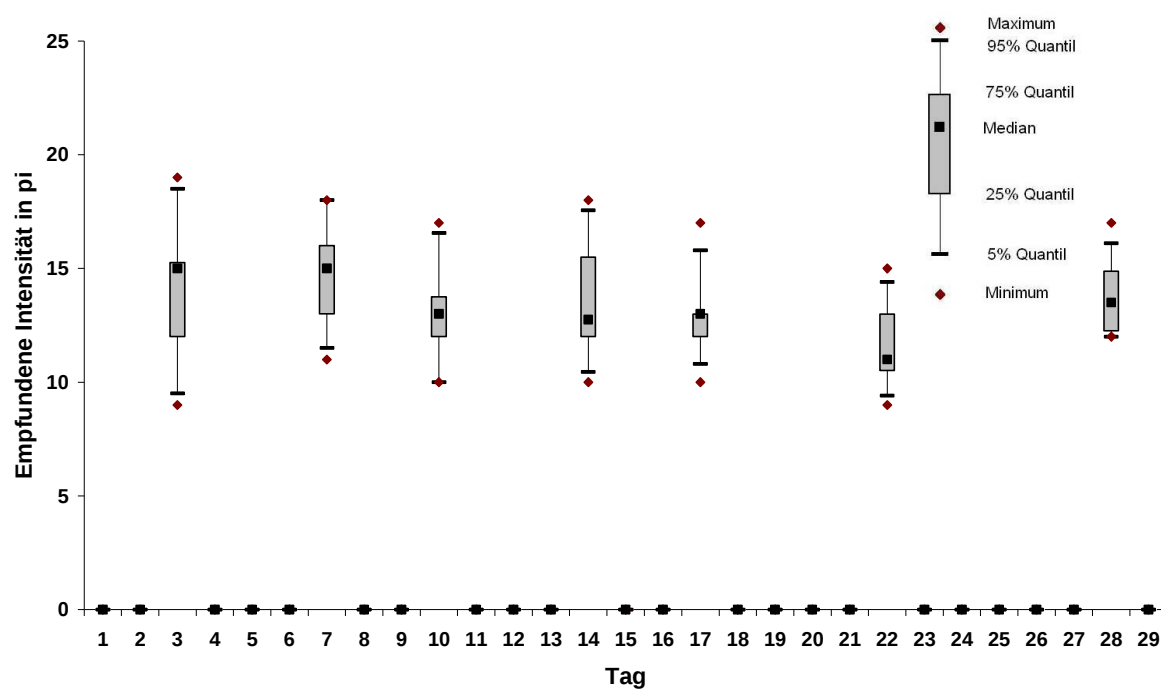


Figure 3949-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

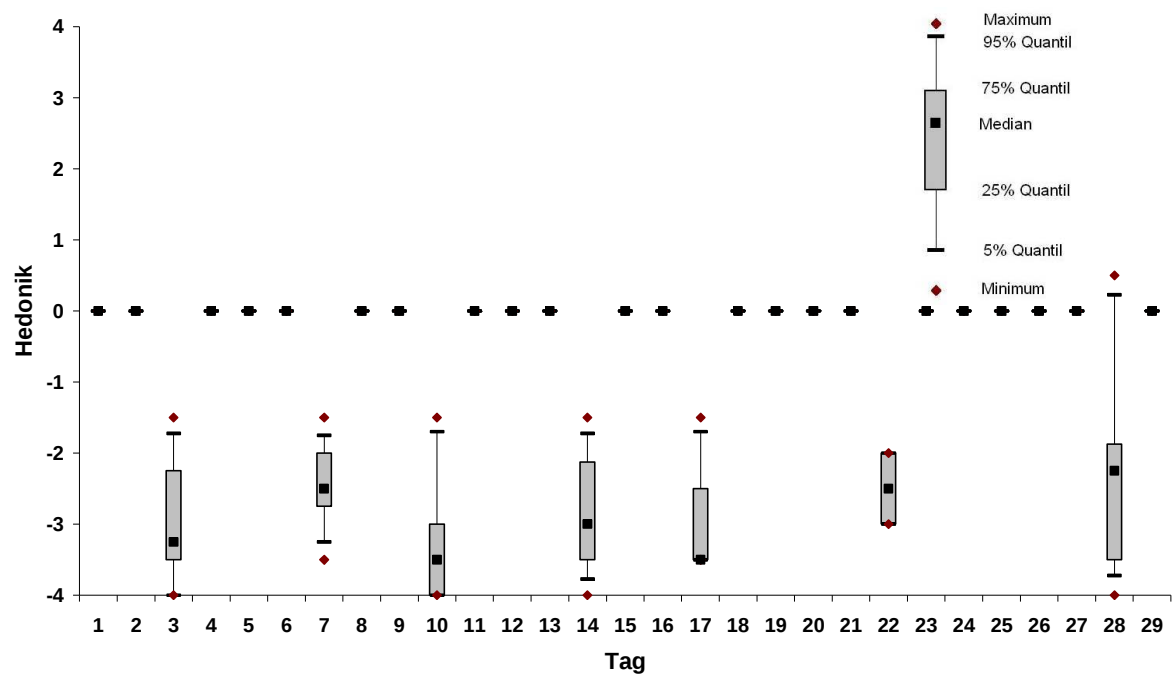


Figure 3949-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4026 Acrylic sealant**Table 4026-1: Concentrations of organic compounds measured in an acrylic sealant; 24-litre chamber, $q = 44 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
1-Butanol	71-36-3	7.27	160	62	25	13
Ethylene glycol (Ethanediol))	107-21-1	9.67	4500	1900	700	470
N-Butylether	142-96-1	14.56	63	53	37	18
n-Butylacrylate	141-32-2	14.89	66	44	25	10
Propionic acid butylester	590-01-2	15.21	9	3	2	-
TVOC			4800	2100	790	510

Table 4026-2: Summarised AgBB evaluation of an acrylic sealant according to DIBt reporting mask

Product: 4026	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	4780	5 ≤ 10	!! ≤ 0.3	2060	!! ≤ 0.5	508	≤ 1.0
≤ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	≤ 0.03	0	≤ 0.05	0	≤ 0.1
R (dimensionless)	17.90	none	!! ≤ 0.5	7.732	!! ≤ 0.5	1.891	!! ≤ 1
≤ VOC or NIK	72	none	!! ≤ 0.05	53	≤ 0.05	0	≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC (< C_6)	0	Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

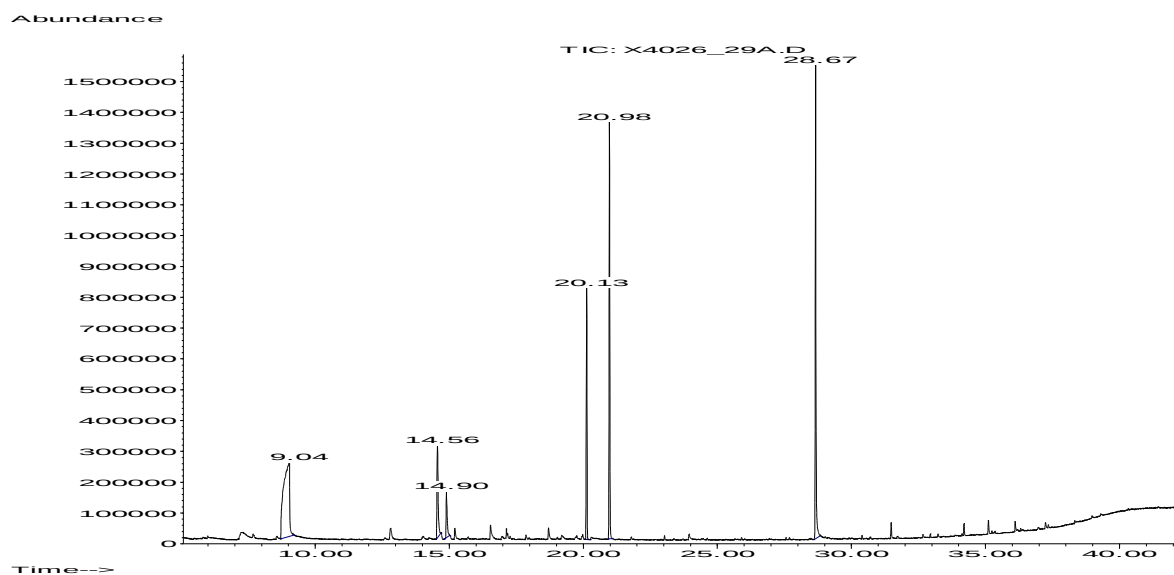


Figure 4026-1: GC/MS chromatogram from day 29 of emissions testing on an acrylic sealant. (Peaks 20.1; 20.9; 28.6 IS)

Table 4026-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	9	9.9	3.3	-1.1	1.8
3	9	8.6	2.3	-0.9	1.4
8	11	7.8	3.7	-0.5	2.0
15	10	9.6	4.4	-1.4	1.4
29	11	4.9	2.7	-0.1	1.3

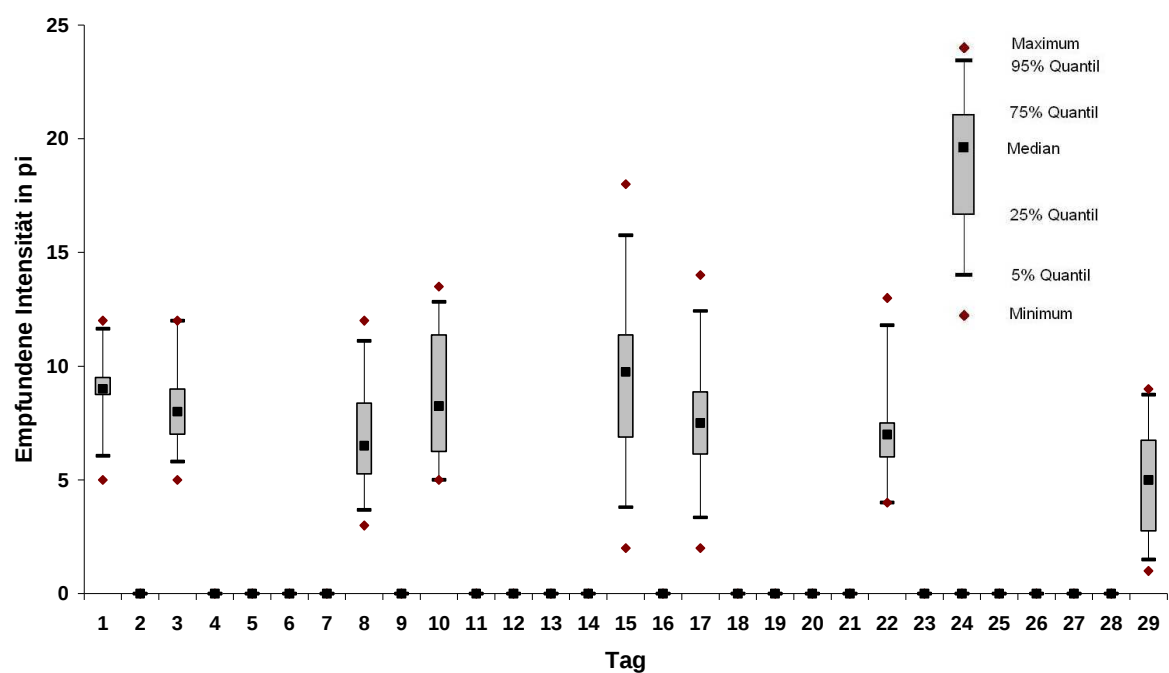


Figure 4026-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

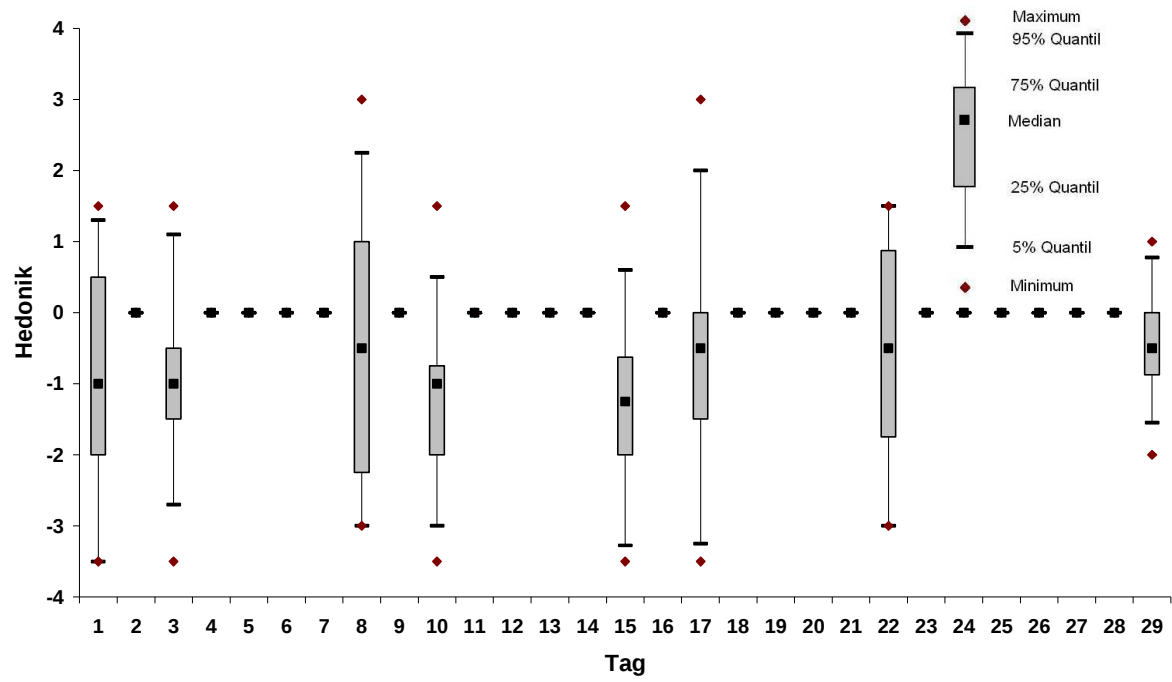


Figure 4026-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

Combinations of building products

4073_74 Screed (4073), Adhesive (4072), Carpet (4074)

Table 4073_74-1: Concentrations of organic compounds measured in a combination of Screed (4073), Adhesive (4072)[◊], Carpet (4074); 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$

Substances	CAS Number	RT [min]	Day 3 [µg/m³]	Day 8 [µg/m³]	Day 15 [µg/m³]	Day 29 [µg/m³]
Acetic acid	64-19-7	6.59	16	16	9	18
Hexamethylcyclotrisiloxane	541-05-9	12.8	46	67	55	90
Benzaldehyde	100-52-7	16.47	18	21	11	11
Unknown*		17	37	14	11	18
2-Ethyl-1-hexanol	104-76-7	17.8	16	11	11	0
Acetophenone	98-86-2	18.6	14	10	7	0
4-Phenylcyclohexene	4994-16-5	23.56	520	420	270	300
TVOC			670	560	370	440

* Generalised name, no exact specification possible

Table 4073_74-2: Summarised AgBB evaluation of a combination of Screed (4073), Adhesive (4072) and Carpet (4074) according to DIBt reporting mask

Product: 4073_74	3 Days				7 Days			28 Days			
ADAM_2008_04	Amt.	AgBB Requirements		Abort criteria		Amt.	Abort criteria		Amt.	AgBB Requirements	
	µg/m³	mg/m³		mg/m³		µg/m³	mg/m³		µg/m³	mg/m³	
TVOC (C ₆ - C ₁₆)	666	0.6	≤ 10	!!	≤ 0.3	554	!!	≤ 0.5	441		≤ 1.0
≤ SVOC (C ₁₆ - C ₂₂)	0	none			≤ 0.03	0	≤ 0.05		0		≤ 0.1
R (dimensionless)	0.665	none		!!	≤ 0.5	0.604	!!	≤ 0.5	0.392		≤ 1
≤ VOC or NIK	83	none		!!	≤ 0.05	81	!!	≤ 0.05	108		≤ 0.1
≤ Carcinogenic	0	0 ≤ 0.01			≤ 0.001	0	≤ 0.001		0		≤ 0.001
This block provides additional information											
VVOC (< C ₆) VOC (C ₆ - C ₁₆) Toluene equivalent	0	Input value manually!				0			0		

[◊] The same adhesive as 4061, different batch

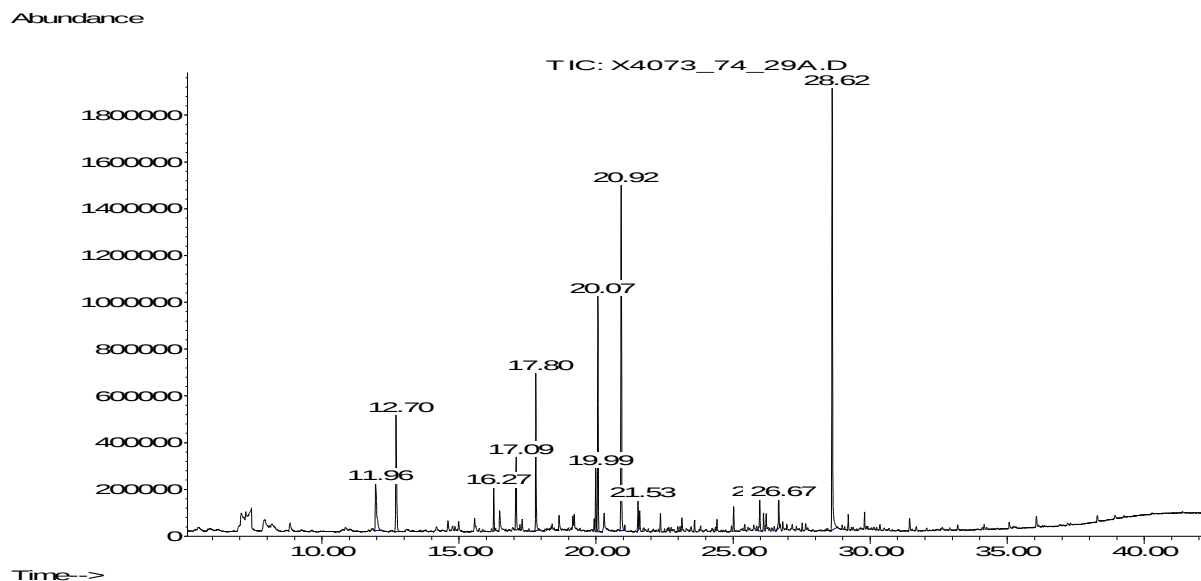


Figure 4073_74-1: GC/MS chromatogram from day 29 of emissions testing on a combination of Screed (4073), Adhesive (4072) and Carpet (4074). (Peaks 20.0; 20.9; 28.6 IS)

Table 4073_74-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	12	11.8	4.9	-2.1	1.3
3	11	11.0	3.3	-2.7	0.8
8	11	7.4	2.8	-1.1	1.4
15	11	7.7	3.3	-1.2	1.1
29	12	6.0	1.7	-0.2	1.8

Table 4073_74-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	19	-1.0	4.4	-0.9	1.5
9	17	-0.1	5.0	-0.6	1.8
16	27	-1.0	5.5	-1.1	1.5
30	27	-0.1	5.3	-0.7	1.3

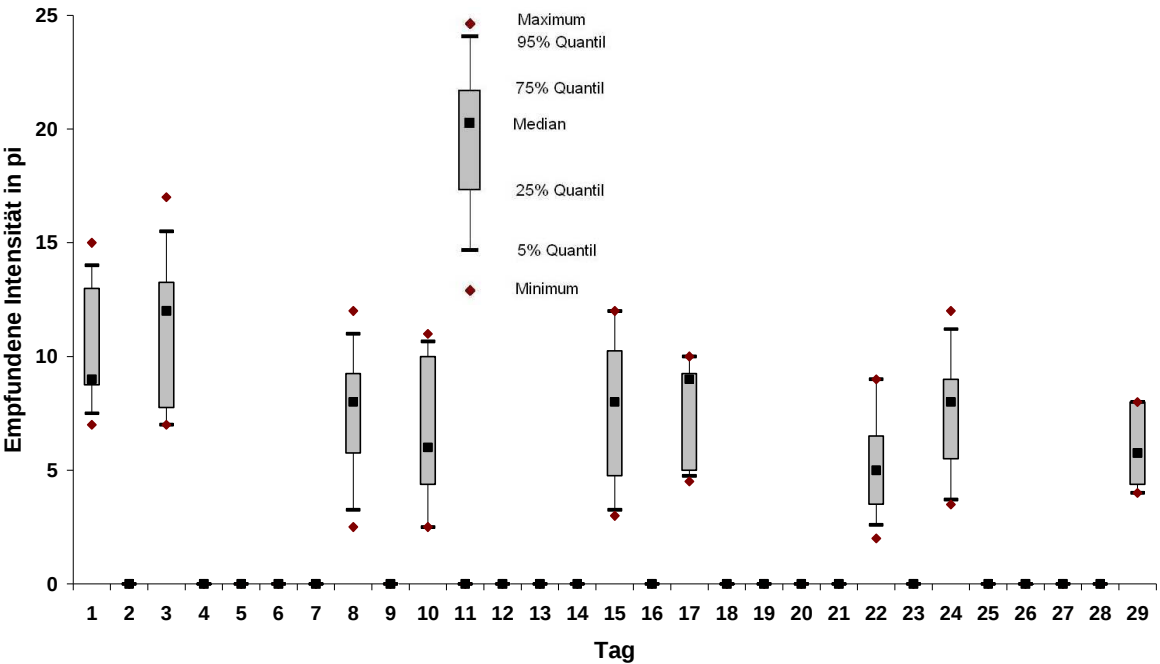


Figure 4073_74-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

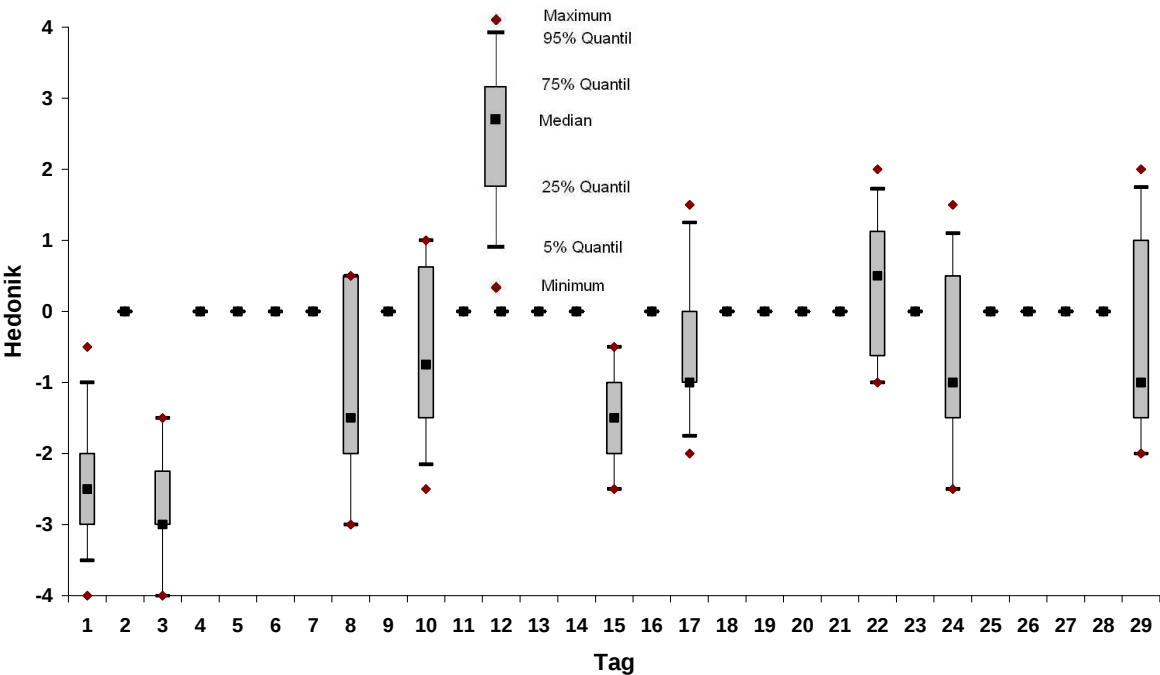


Figure 4073_74-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4100 Screed (4073), Adhesive (4072), PVC (4101)**Table 4100-1: Concentrations of organic compounds measured in a combination of Screed (4073), Adhesive (4072) and PVC (4101); 24-litre chamber, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
Acetaldehyde			-	-	-	8
Acetone		6	-	-	-	230
Acetic acid	64-19-7	6.59	20	38	6	64
Unknown*	0	16-29	390	370	270	93
a-Pinene	80-56-8	15.8	30	23	5	0
Limonene	138-86-3	17.9	20	13	1	0
Longifolene	475-20-7	25	20	61	71	46
Unknown* (Summe SVOC)	0	29-32	1900	2300	2100	310
TVOC			480	510	350	200

* Generalised name, no exact specification possible

Table 4100-2: Summarised AgBB evaluation of a combination of Screed (4073), Adhesive (4072) and PVC (4101) according to DIBt reporting mask

Product: 4100	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	478	$0.5 \leq 10$	!! ≤ 0.3	505	≤ 0.5	218	≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	1897	none	!! ≤ 0.03	2267	!! ≤ 0.05	308	!! ≤ 0.1
R (dimensionless)	0.086	none	≤ 0.5	0.140	≤ 0.5	0.169	≤ 1
$\leq$ VOC or NIK	388	none	!! ≤ 0.05	370	!! ≤ 0.05	92	≤ 0.1
$\leq$ Carcinogenic	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)				0		230	
VOC ($\text{C}_6 - \text{C}_{16}$)		Input value manually!					
Toluene equivalent							

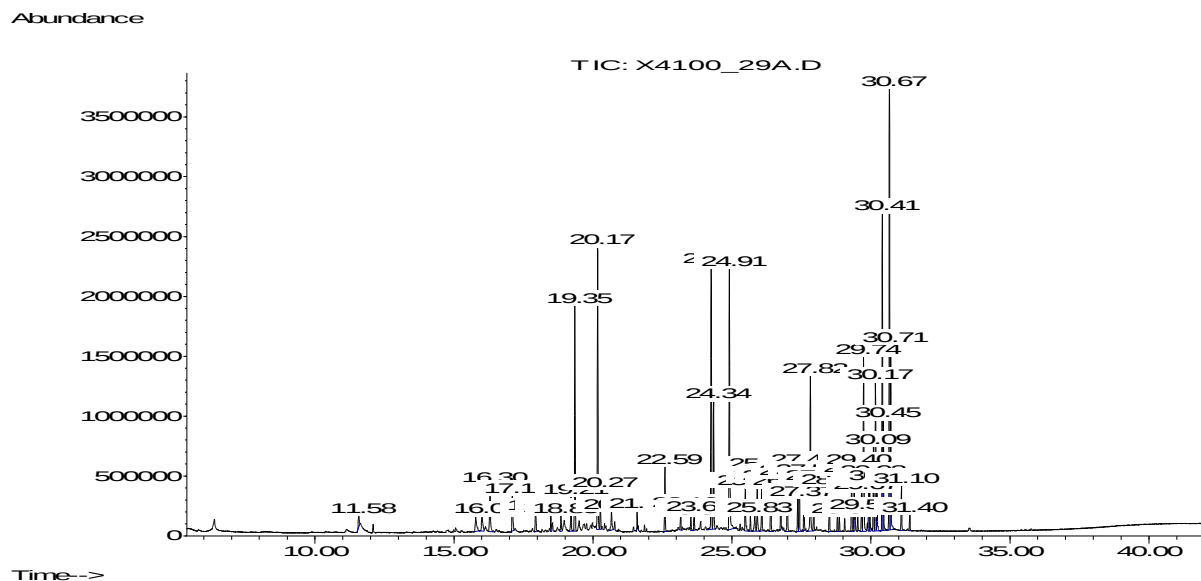


Figure 4100-1: GC/MS chromatogram from day 29 of emissions testing on a combination of Screed (4073), Adhesive (4072) and PVC (4101). (Peaks 20.0; 20.9; 28.6 IS)

Table 4100-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	10	9.5	2.5	-1.5	1.5
3	9	7.0	2.8	-1.6	1.2
8	10	6.1	2.1	-1.4	1.8
15	13	6.6	2.3	-1.2	1.3
29	9	7.6	4.1	-1.1	1.4

Table 4100-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	20	-4.4	3.0	-1.8	0.9
9	15	-3.3	3.9	-1.5	1.3
16	17	-2.3	4.0	-1.3	1.4
30	17	-1.1	4.1	-1.1	1.3

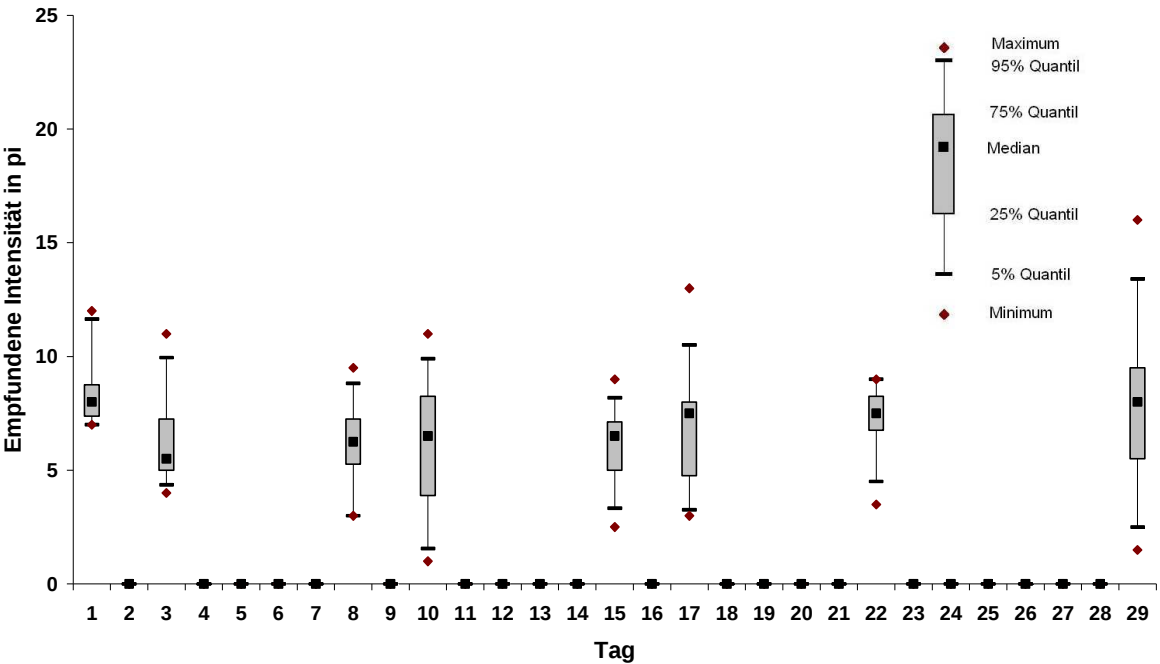


Figure 4100-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

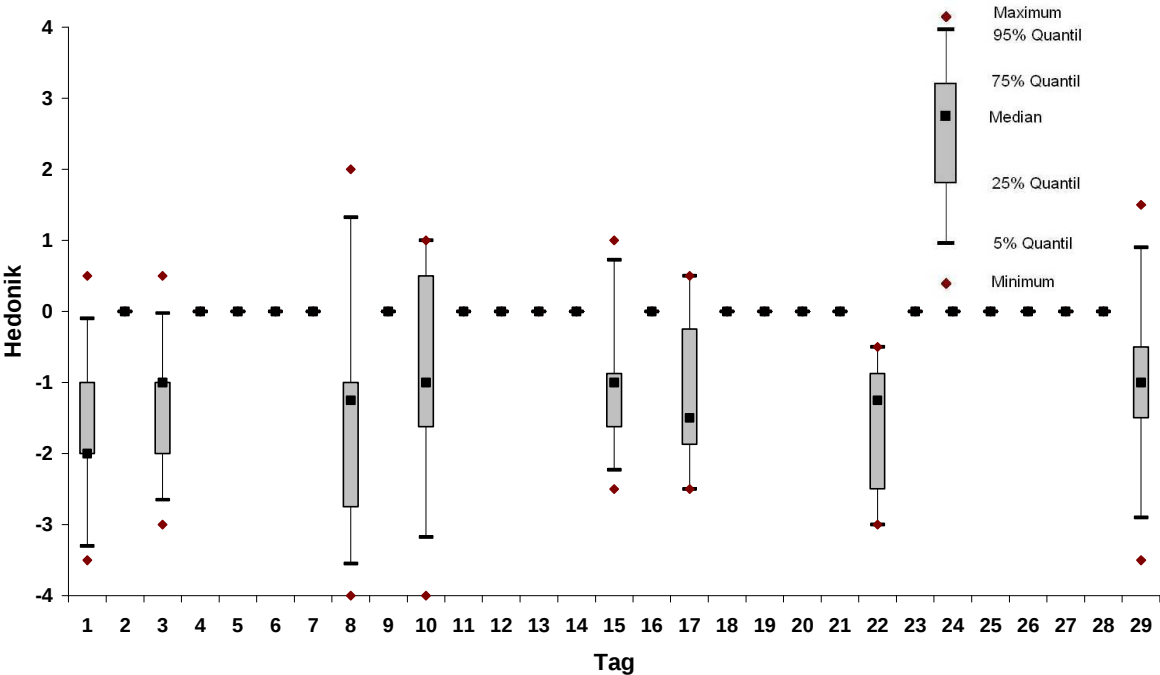


Figure 4100-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

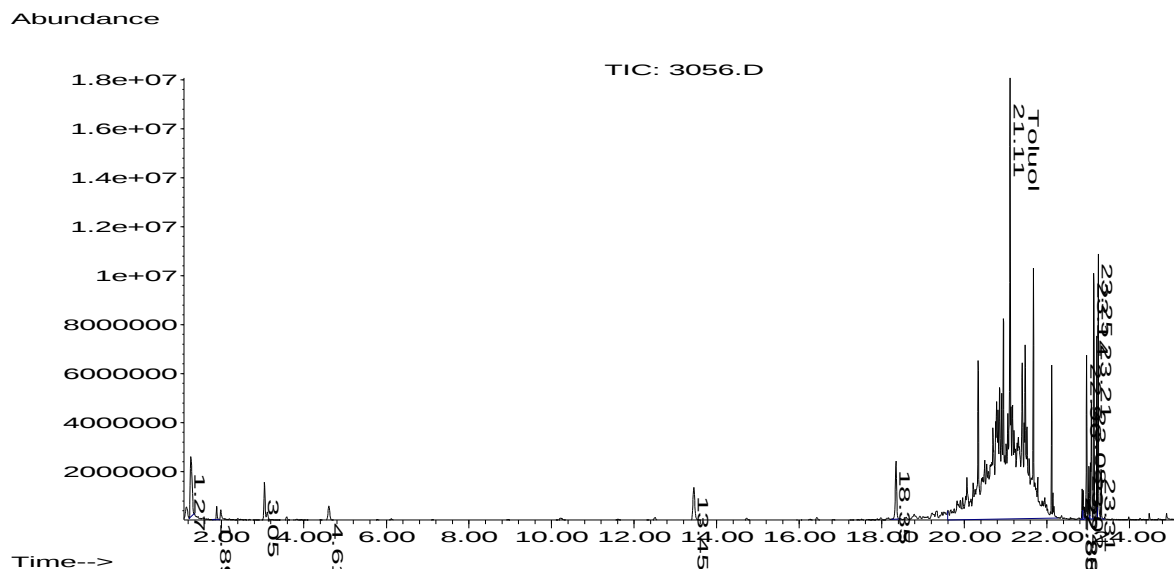
4200_99 PVC (4199) with carpet (4200)**Table 4200_99-1: Concentrations of organic compounds measured in a combination of PVC (4199) with Carpet (4200); CLIMPAQ, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
TVOC (t.e.)			11000	n.d.	n.d.	6600

* t.e.: Toluene equivalent

Table 4200_99-2: Summarised AgBB evaluation of a combination of PVC (4199) with Carpet (4200) according to DIBt reporting mask

Product: 4200_99	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	11000	11 ≤ 10	!! ≤ 0.3		≤ 0.5	6600	!! ≤ 1.0
$\leq$ SVOC ($\text{C}_{16} - \text{C}_{22}$)	0	none	!! ≤ 0.03		≤ 0.05	0	≤ 0.1
R (dimensionless)	0.000	none	≤ 0.5		≤ 0.5	00	≤ 1
$\leq$ VOC or NIK	11000	none	!! ≤ 0.05		≤ 0.05	6600	!! ≤ 0.1
$\leq$ Carcinogenic	0	0 ≤ 0.01	≤ 0.001		≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)		Input value manually!					
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							



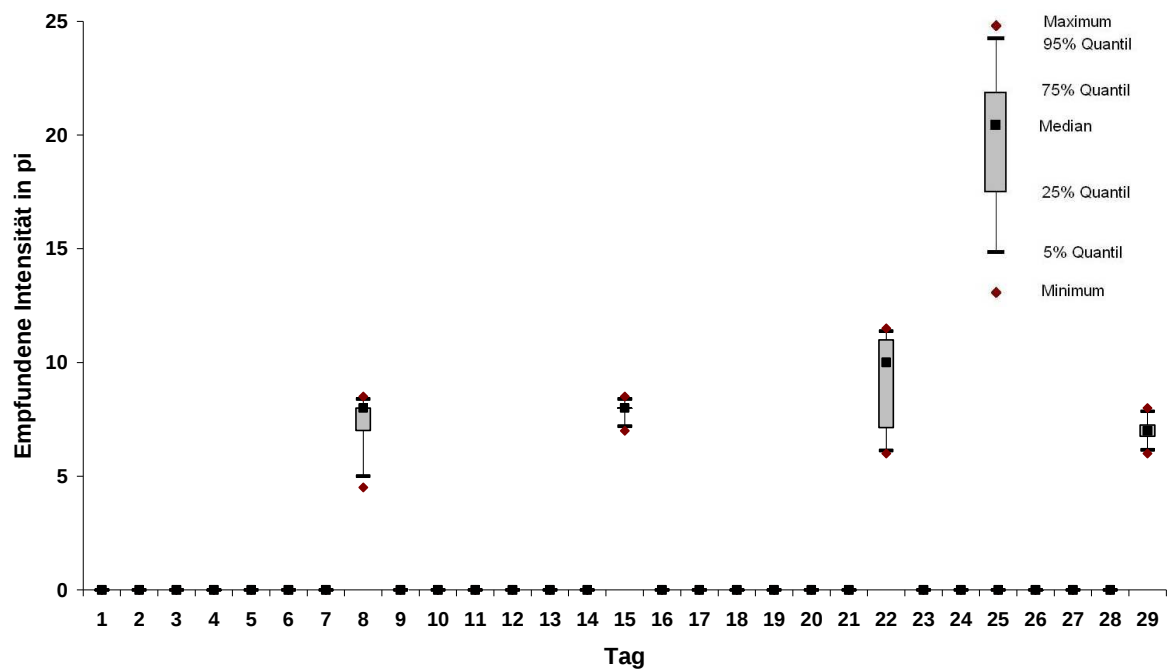


Figure 4200_99-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

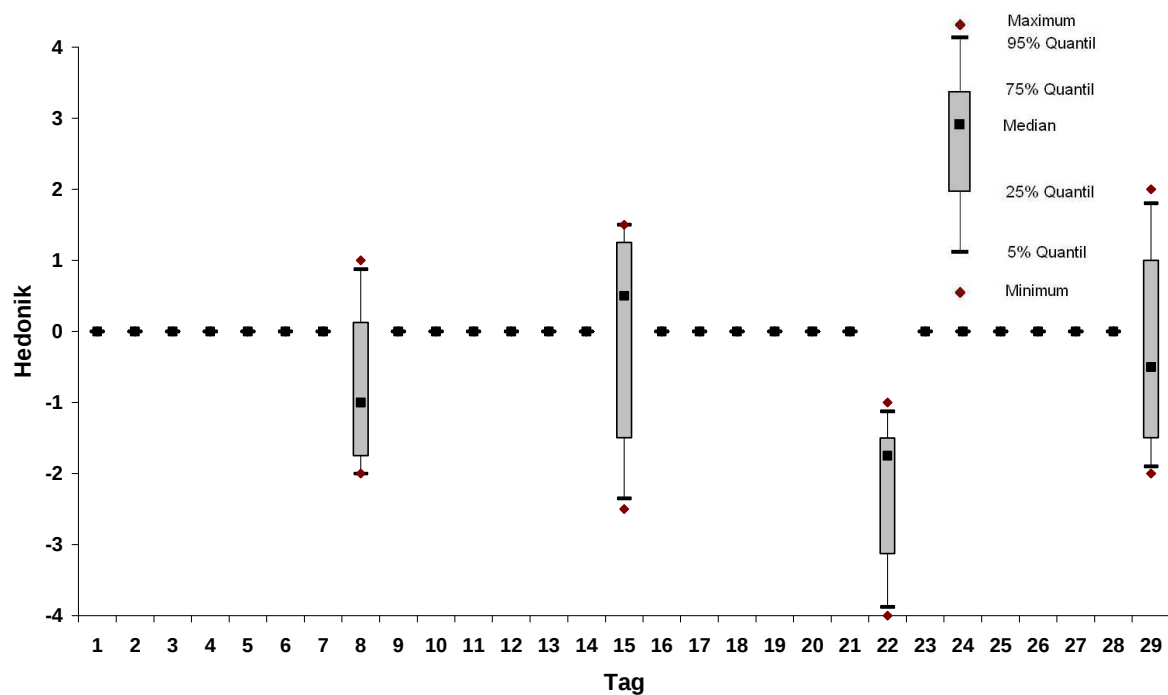


Figure 4200_99-3: Change in hedonics over the testing period (CLIMPAQ-HRI)

4200_01 PVC (4201) with carpet (4200)**Table 4200_01-1: Concentrations of organic compounds measured in a combination of PVC (4201) with Carpet (4200), CLIMPAQ, calculated for $q = 1.25 \text{ m}^3 \text{ m}^{-2} \text{ h}^{-1}$**

Substances	CAS Number	RT [min]	Day 3 [$\mu\text{g}/\text{m}^3$]	Day 8 [$\mu\text{g}/\text{m}^3$]	Day 15 [$\mu\text{g}/\text{m}^3$]	Day 29 [$\mu\text{g}/\text{m}^3$]
TVOC (t.e.)			400			200
4-Phenylcyclohexene	4994-16-5	21.8	5			4

* t.e.: Toluene equivalent

Table 4200_01-2: Summarised AgBB evaluation of a combination of PVC (4201) with Carpet (4200) according to DIBt reporting mask

Product: 4200_01	3 Days			7 Days		28 Days	
ADAM_2008_04	Amt.	AgBB Requirements	Abort criteria	Amt.	Abort criteria	Amt.	AgBB Requirements
	$\mu\text{g}/\text{m}^3$	mg/m^3	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3	$\mu\text{g}/\text{m}^3$	mg/m^3
TVOC ($\text{C}_6 - \text{C}_{16}$)	400	$0.5 \leq 10$	!! ≤ 0.3		≤ 0.5	200	≤ 1.0
$\leq \text{SVOC} (\text{C}_{16} - \text{C}_{22})$		none	!! ≤ 0.03		≤ 0.05		≤ 0.1
R (dimensionless)	0	none	≤ 0.5		≤ 0.5	0.0	≤ 1
$\leq \text{VOC or NIK}$	390	none	!! ≤ 0.05		≤ 0.05	195	≤ 0.1
$\leq \text{Carcinogenic}$	0	$0 \leq 0.01$	≤ 0.001	0	≤ 0.001	0	≤ 0.001
This block provides additional information							
VVOC ($< \text{C}_6$)		Input value manually!		0		0	
VOC ($\text{C}_6 - \text{C}_{16}$)							
Toluene equivalent							

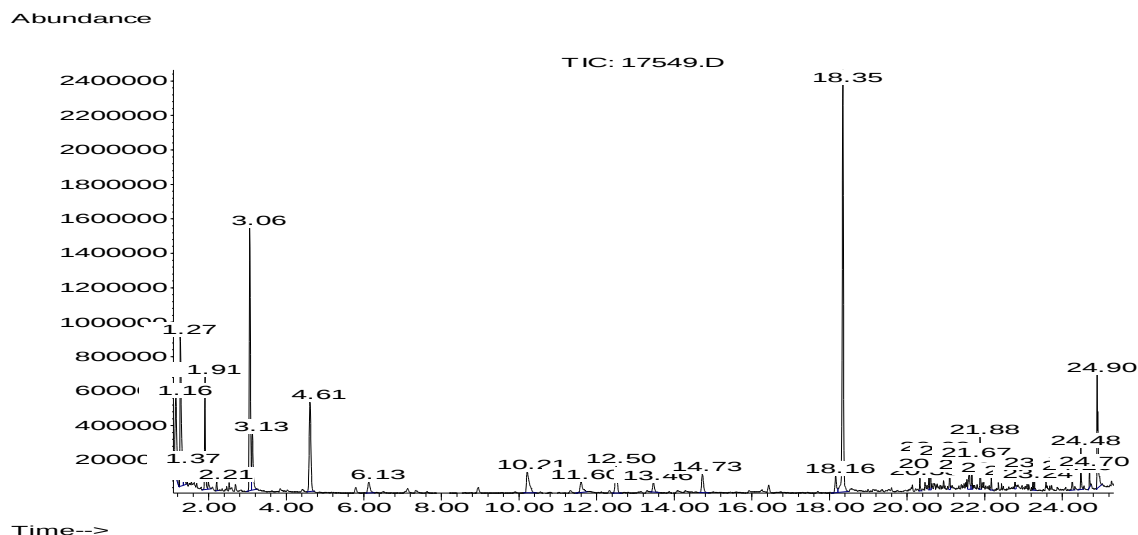


Figure 4200_01-1: GC/MS chromatogram from day 29 of emissions testing on a combination of PVC (4201) with Carpet (4200). (Peaks 18.35 IS; 21.88 4-PCH)

Table 4200_01-3: Summarised data from odour testing – panel with comparative scale (CLIMPAQ-HRI)

Day	Panel size	Intensity II		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
3	-	-	-	-	-
8	6	6.5	3.1	-1.1	0.5
15	7	2.6	1.8	0.5	1.4
29	5	3.6	1.1	0.5	1.4

Table 4200_01-4: Summarised data from odour testing – panel without comparative scale (CLIMPAQ-HRI)

Day	Panel size	Acceptability		Hedonics	
		Mean	Standard dev.	Mean	Standard dev.
1	-	-	-	-	-
2	-	-	-	-	-
9	22	0.7	4.4	-0.2	1.5
16	28	2.2	4.3	0.1	1.5
30	21	0.8	5.1	-0.2	1.7

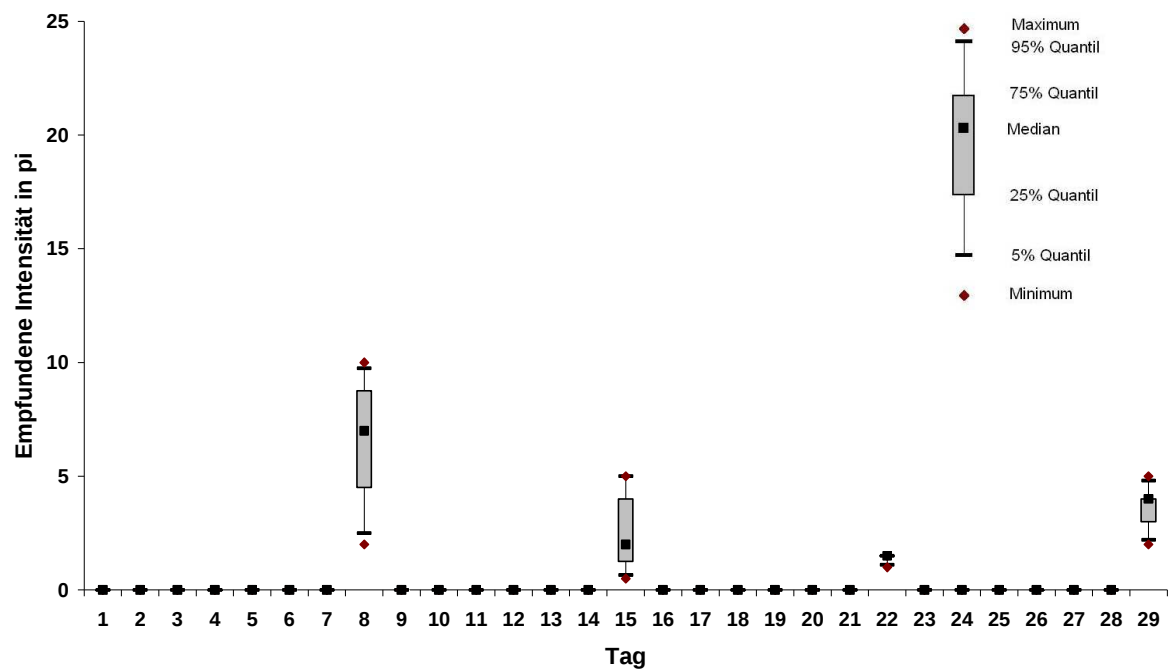


Figure 4200_01-2: Change in perceived intensity over the testing period (CLIMPAQ-HRI)

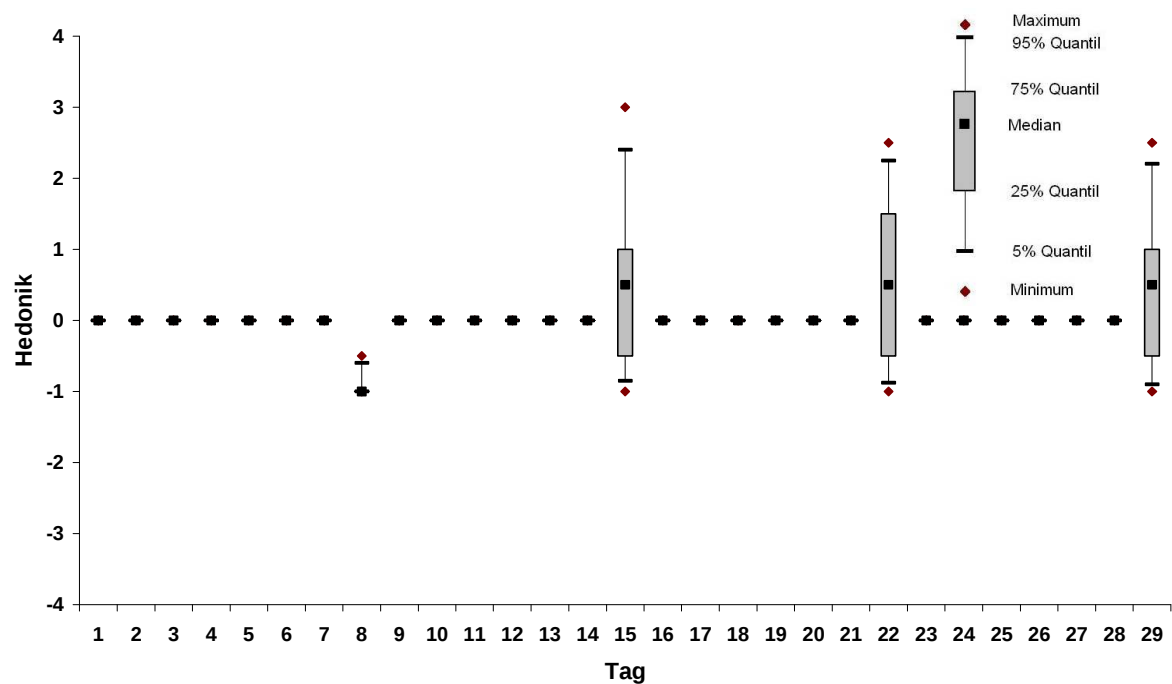


Figure 4200_01-3: Change in hedonics over the testing period (CLIMPAQ-HRI)