

INDUSTRIA ESPANOLA PARA EL
DESARROLLO E INVESTIGACION
2100, S.A.
Antonio León
C/ Panadero
41520 EL VISO DEL ALCOR (Sevilla)

Test Report No. B50028-001

This B-Test Report replaces the Test Report No. 50028-001 of 13.03.2015.

Client:	INDUSTRIA ESPANOLA PARA EL DESARROLLO E INVESTIGACION 2100, S.A.
Sample description by client:	Graphenstone Exterior
Sampling by:	Client
Date of arrival of sample:	15.01.2015
Date of report:	14.04.2015
Number of pages of report:	17
Testing parameter:	see table of contents
Testing laboratory:	eco-INSTITUT, Cologne except * subcontracted

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Sample view

Internal Sample-no.	Description by customer	Condition upon delivery	Type of sample
A001	Graphenstone Exterior	without objection	paint

Test Report

1 Emission test

1.1 Volatile Organic Compounds (VOC)

Definition of terms:

VOC (volatile organic compounds)	All individual materials with a concentration $\geq 0,001$ mg/m ³ in retention range C ₆ (n-Hexane) to C ₁₆ (n-Hexadecane) Substances refer to LCI lists / AgBB (DIBt)
TVOC (Total volatile organic compounds)	Sum of all individual substances in retention range C ₆ to C ₁₆ .
CMR-VOC (carcinogenic, mutagenic, reproduction-toxic VOC, VVOC and SVOC)	All individual substances with the following categories: Regulation (EC) No. 1272/2008: Category Car.1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B TRGS 905: K1 and K2, M1 and M2, R1 and R2 IARC: Group 1 and 2A DFG (MAK lists): Category III1 and III2
VVOC (very volatile organic compounds)	All individual substances with concentration $\geq 0,001$ mg/m ³ in retention range $< C_6$
TVVOC (Total very volatile organic compounds)	Sum of all VVOC in retention range $< C_6$
SVOC (semi volatile organic compounds)	All individual materials $\geq 0,001$ mg/m ³ in retention range $> C_{16}$ (n-Hexadecane) to C ₂₂ (Docosane)
TSVOC (Total semi volatile organic compounds)	Sum of all SVOC in retention range $> C_{16}$ to C ₂₂ .
Identified and calibrated substances (C _{id sub}), substance specific calculated	Spectrum and retention time are concordant with the calibrated comparison substance
Not identified substances calculated as toluene equivalent (C _{ni tol})	Suggestion from the spectrum library with high probability and/or allocation to a group of substances
SER	Specific emission rate (see appendix)
LCI value	Lowest Concentration of Interest; calculated value for the evaluation of VOC, established by the Committee for Health-related Evaluation of Building Products (Ausschuss zur gesundheitlichen Bewertung von Bauprodukten - AgBB)
R value	The quotient of the concentration and the LCI value is generated for every substance which is detected in the test chamber air. The sum of the calculated quotients results in the R value.

List of analysed VOCs:

Aromatic hydrocarbons

Toluene
Ethylbenzene
p-Xylene
m-Xylene
o-Xylene
Isopropylbenzene
n-Propylbenzene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,2,3-Trimethylbenzene
2-Ethyltoluene
1-Isopropyl-4-methylbenzene
1,2,4,5-Tetramethylbenzene
n-Butylbenzene
1,3-Diisopropylbenzene
1,4-Diisopropylbenzene
Phenyl octane
1-Phenyl decane²
1-Phenyl undecane²
4-Phenylcyclohexene
Styrene
Phenyl acetylene
2-Phenyl propene
Vinyl toluene
Naphthalene
Indene
Benzene
Cresol

Saturated aliphatic substances

Hydrocarbons
2-Methyl pentane¹
3-Methyl pentane¹
n-Hexane
Cyclohexane
Methylcyclohexane
n-Heptane
n-Octane
n-Nonane
n-Decane
n-Undecane
n-Dodecane
n-Tridecane
n-Tetradecane
n-Pentadecane
n-Hexadecane
Methylcyclopentane
1,4-Dimethylcyclohexane

Terpenes

δ-3-Carene
α-Pinene
β-Pinene
Limonene
Longifolene
Caryophyllene
Isolongifolene
alpha-Phellandrene
Myrcene
Camphene
alpha-Terpinene
Longipinene
beta-Caryophyllene
beta-Farnesene
alpha-Bisabolene

Aliphatic alcohols and ether

1-Propanol¹
2-Propanol¹
tert-Butanol
2-Methyl-1-propanol

1-Butanol
1-Pentanol
1-Hexanol
Cyclohexanol
2-Ethyl-1-hexanol
1-Octanol
4-Hydroxy-4-methyl-pentan-2-one
1-Heptanol
1-Nonanol
1-Decanol

Aromatic alcohols (phenols)

Phenol
BHT (2,6-di-tert-butyl-4-methylphenol)
Benzylalcohol

Glycols, Glycol ether, Glycol ester

Propylenglycol (1,2-Dihydroxypropane)
Ethylene glycol (Ethandiol)
Ethylene glycol monobutyl ether
Diethylene glycol
Diethylene glycol-monobutyl ether
2-Phenoxyethanol
Ethylene carbonate
1-Methoxy-2-propanol
Glycolic acid butyl ester
Texanol
Butyldiglycol acetate
Dipropylenglycol mono-methyl ether
2-Methoxyethanol
2-Ethoxyethanol
2-Propoxyethanol
2-Methylethoxyethanol
2-Hexoxyethanol
1,2-Dimethoxyethane
1,2-Diethoxyethane
2-Methoxyethyl acetate
2-Ethoxyethyl acetate
2-Butoxyethyl acetate
2-(2-Hexoxyethoxy)-ethanol
1-Methoxy-2-(2-methoxy-ethoxy)-ethane
Propylene glycol di-acetate
Dipropylene glycol
Dipropylene glycol monomethylether acetate
Dipropylene glycol mono-n-propylether
1,4-Butanediol
Tripropyleneglycolmonomethyl ether
Triethylene glycol dimethyl ether
1,2-Propylene glycol dimethyl ether
TXIB
Ethylidiglycol
Dipropylene glycol-dimethyl ether
Propylene carbonate
Hexylene glycol
3-Methyl-1-butanol
1,2-Propylene glycol n-propyl ether
1,2-Propylene glycol n-butyl ether
Diethylglycol phenyl ether
Neopentyl glycol

Aldehydes

Butanal^{1,3}
Pentanal³
Hexanal
Heptanal
2-Ethylhexanal
Octanal
Nonanal
Decanal
2-Butenal³

2-Pentenal³
2-Hexenal
2-Heptenal
2-Octenal
2-Nonenal
2-Decenal
2-Undecenal
Furfural
Glutaraldehyde
Benzaldehyde
Acetaldehyde^{1,3}
Propanal^{1,3}
Propenal^{1,3}
Isobutanol
3-Methyl-2-propanol
Methylisobutylketone
Cyclopentanone
Cyclohexanone

Ketones

Ethylmethylketone³
3-Methyl-2-propanol
Methylisobutylketone
Cyclopentanone
Cyclohexanone
Acetone^{1,3}
2-Methylcyclopentanone
2-Methylcyclohexanone
Acetophenone
1-Hydroxyacetone

Acids

Acetic acid
Propionic acid
Isobutyric acid
Butyric acid
Pivalic acid
n-Valeric acid
n-Hexanoic acid
n-Heptanoic acid
n-Octanoic acid
2-Ethylhexanoic acid

Esters and Lactones

Methylacetate¹
Ethyl acetate¹
Vinyl acetate¹
Isopropyl acetate
Propyl acetate
2-Methoxy-1-methylethyl acetate
n-Butyl formate
Methylmethacrylate
Isobutylacetate
1-Butyl acetate
2-Ethylhexyl acetate
Methyl acrylate
Ethyl acrylate
n-Butyl acrylate
2-Ethylhexyl acrylate
Adipic acid dimethyl ester
Fumaric acid dibutyl ester
Succinic acid dimethyl ester
Hexandioldiacrylate
Maleic acid dibutyl ester
Butyrolactone
Dibutyl glutarate
Dibutyl succinate
Dimethylphthalate
Texanol
Dipropylene glycol diacrylate

Chlorinated hydrocarbons

Tetrachlorethene
1,1,1-Trichlorethane
Trichlorethene
1,4-Dichlorbenzene

Others

1,4-Dioxane
Caprolactam
N-Methyl-2-pyrrolidone
Octamethylcyclotetrasiloxane
Methanamine
2-Butanonoxime
Triethyl phosphate
5-Chlor-2-methyl-4-isothiazolin-3-one
2-Methyl-4-isothiazolin-3-one (MIT)
Triethylamine
Decamethylcyclopentasiloxane
Dodecamethylcyclopentasiloxane
Tetrahydrofuran (THF)
1-Decene
1-Octene
2-Pentylfuran
Tetramethyl succinonitrile
Propylencarbonate
Isophorone
Dimethylformamide (DMF)
Tributyl phosphate

1 VVOC

2 SVOC

3 Analysis according to
DIN ISO 16000-3

Explanation of the Specific Emission Rate SER

Emission measurements are accomplished in test chambers under defined physical conditions (temperature, relative humidity, room loading, air change rate etc.).

Test chamber measurement results are directly comparable only if the investigations were accomplished under the same basic conditions.

If the differences of the physical conditions refer only to the change of air rate and/or the loading, the "SER" or "specific emission rate" can be used for comparability of the measurement results. The SER indicates how many volatile organic compounds (VOC) are released by the sample for each material unit and hour (h). The SER can be calculated using the formula below for each proven individual component of the VOC from the data in the test report.

As material units the following are applicable:

l = unit of length (m)	relation between emission and length
a = unit area (m ²)	relation between emission and surface
v = unit volume (m ³)	relation between emission and volume
u = piece unit (unit = piece)	relation between emission and complete unit

From this the different dimensions for SER result:

length-specific	SER _l in µg/m h
surface-specific	SER _a in µg/m ² h
volume-specific	SER _v in µg/m ³ h
unit specific	SER _u in µg/u h

SER thus represents a product specific rate, which describes the mass of the volatile organic compound, which is emitted by the product per time unit at a certain time after beginning of the examination.

$$\boxed{SER = q \cdot C}$$

q	specific air flow rate (quotient from change of air rate and loading)
C	Concentration of the measured substance(s)

The result can be indicated in milligrams (mg) in place of micro grams (µg), whereby 1 mg = 1000 µg.

Test method

Preparation of test sample:	Date:	13.02.2015
	Pre-treatment:	The paint was applied to a gypsum board, Application amount: 133,3 g/m ²
	Masking of backside:	yes
	Masking of edges:	yes 100 %
	Relationship of unmasked edges to surface:	not applicable
	Charging:	related to area
	Dimensions:	30 cm x 20,8 cm
	Test chamber conditions::	Chamber volume:
Temperature:		23 °C
Relative humidity:		50 %
Air pressure:		normal
Air:		cleaned
Air change rate:		1 h ⁻¹
Air velocity:		0.3 m/s
Loading:		0.5 m ² /m ³
Specific air flow rate:		2 m ³ /m ² · h
Air sampling:		11, 12 and 14 days after test chamber loading
Analytics:	DIN ISO 16000-3	
	DIN ISO 16000-6	
	Limit of determination:	1 µg/m ³

Measurement time 11 days after test chamber loading

1.1.1 TVOC_{Tol 11d}

Test parameter:

Total volatile organic compounds (TVOC), test chamber, air sampling 11 days after test chamber loading

Test result:

Sample: | A001: Graphenstone Exterior

Total volatile organic compounds (Toluene equivalent DIN ISO 16000-6)	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TVOC _{11d}	10	20

1.1.2 Formaldehyde_{11d} and Acetaldehyde_{11d}

Test parameter:

Formaldehyde and Acetaldehyde, test chamber, air sampling 11 days after test chamber loading

Test method:

Preparation of test sample and
Test chamber conditions: | see Volatile organic compounds

Analytics: | DIN ISO 16000-3

Limit of determination: | 2 µg/m³ ≈ 0,002 ppm

Test result:

Sample: | A001: Graphenstone Exterior

Substance	Concentration (Test chamber air) [µg/m ³]	Concentration (Test chamber air) [ppm]
Formaldehyde	< 2	< 0,002
Acetaldehyde	< 2	-

Measurement time 12 days after test chamber loading

1.1.3 TVOC_{Tol 12d}

Test parameter:

Total volatile organic compounds (TVOC), test chamber, air sampling 12 days after test chamber loading

Test result:

Sample: | A001: Graphenstone Exterior

Total volatile organic compounds (Toluene equivalent DIN ISO 16000-6)	Concentration (test chamber air) [$\mu\text{g}/\text{m}^3$]	SER _a [$\mu\text{g}/\text{m}^2\text{h}$]
TVOC _{12d}	10	20

1.1.4 Formaldehyde_{12d} and Acetaldehyde_{12d}

Test parameter:

Formaldehyde and Acetaldehyde, test chamber, air sampling 12 days after test chamber loading

Test method:

Preparation of test sample and
Test chamber conditions: | see Volatile organic compounds

Analytics: | DIN ISO 16000-3

Limit of determination: | $2 \mu\text{g}/\text{m}^3 \approx 0,002 \text{ ppm}$

Test result:

Sample: | A001: Graphenstone Exterior

Substance	Concentration (Test chamber air) [$\mu\text{g}/\text{m}^3$]	Concentration (Test chamber air) [ppm]
Formaldehyde	< 2	< 0,002
Acetaldehyde	< 2	-

Measurement time 14 days after test chamber loading

1.1.5 CMR-VOC_{14d}

Test parameter:

Carcinogenic, mutagenic and reproduction-toxic volatile organic compounds (CMR VOC), test chamber, air sampling 14 days after test chamber loading

Test result:

Sample: | A001: Graphenstone Exterior

No.	Substance	CAS No.	Concentration (Test chamber air) [µg/m ³]	CMR classifica- tion ^{*)}
VOC_{14d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (C_{id sub})				
-	-	-	n.d.	-
VOC_{14d}: Further identified and calibrated CMR substances in addition to LCI list/AgBB, substance specific calculated (C_{id sub})				
-	-	-	n.d.	-
VOC_{14d}: Further identified, not calibrated CMR substances, calculated as toluene equivalent (C_{ni tol})				
-	-	-	n.d.	-

*) Classification acc. to Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B, TRGS 905: K1 and K2, M1 and M2, R1 and R2, IARC: Group 1 and 2A, DFG (MAK list): Category III1 and III2

	Concentration (Test chamber air) [µg/m ³]	SER _a [µg/m ² h]
Sum of VOC with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B TRGS 905: K1 and K2, M1 and M2, R1 and R2 IARC: Group 1 and 2A DFG (MAK list): Category III1 and III2	n.d.	n.d.

n.d. = not detectable

1.1.6 VOC / TVOC_{14d}

Test parameter:

Volatile organic compounds (VOC), test chamber, air sampling 14 days after test chamber loading

Test result:

Sample: | A001: Graphenstone Exterior

No.	Substance	CAS No.	Concentration (Test chamber air) [µg/m ³]
VOC_{14d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})			
1	Aromatic hydrocarbons		
1-1	Toluene	108-88-3	5
VOC_{14d}: Further identified and calibrated substances in addition with LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
VOC_{14d}: Not calibrated substances calculated as toluene equivalent (c_{ni tol})			
	-	-	n.d.

Total volatile organic compounds	Concentration (test chamber air) [µg/m³]	SER_a [µg/m²h]
TVOC_{14d}	5	10
Total volatile organic compounds (Toluene equivalent DIN ISO 16000-6)	Concentration (test chamber air) [µg/m³]	SER_a [µg/m²h]
TVOC_{14d}	10	20

Further VOC sums	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
Sum VOC without LCI	n.d.	n.d.
Sum of bicyclic terpenes	n.d.	n.d.
Sum of sensitising materials with the following categorisations: DFG (MAK lists): Category IV German Federal Institute for Risk Assessment lists: Cat A TRGS 907	n.d.	n.d.
Sum of VOC with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 2, Muta. 2, Repr. 2 TRGS 905: K3, M3, R3 IARC: Group 2B DFG (MAK list): Category III3	5	10
C₉ - C₁₄ - Alkanes / Isoalkanes	n.d.	n.d.
Sum C₄-C₁₁ Aldehydes, acyclic, aliphatic	n.d.	n.d.
Sum C₉-C₁₅ Alkyl benzenes	n.d.	n.d.
Sum Cresols	n.d.	n.d.

R-Value (without dimension)_{14d}	0
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n.d. = not detectable

1.1.7 SVOC_{14d}

Test parameter:

Semivolatile organic compounds (SVOC), test chamber, air sampling 14 days after test chamber loading

Test result:

Sample: | A001: Graphenstone Exterior

No.	Substance	CAS No.	Concentration (test chamber air) [µg/m ³]
SVOC_{14d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated(c_{id sub})			
-	-	-	n.d.
SVOC_{14d}: Further identified and calibrated substances in addition to LCI list/AgBB, substance specific calculated(c_{id sub})			
-	-	-	n.d.
SVOC_{14d}: Not calibrated substances calculated as toluene equivalent (c_{ni tol})			
-	-	-	n.d.

Total semivolatile organic compounds	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TSVOC_{14d}	n.d.	n.d.

n.d. = not detectable

1.1.8 VVOC_{14d}

Test Parameter:

Very volatile organic compounds (VVOC), test chamber, air sampling 14 days after test chamber loading

Test result:

Sample: | A001: Graphenstone Exterior

No.	Substance	CAS-No.	Concentration (test chamber air) [µg/m ³]
VVOC_{14d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (C_{id sub})			
2	Saturated aliphatic hydrocarbons		
2-1	3-Methylpentane	96-14-0	2
10	Esters und Lactones		
10-1	Methylacetate	79-20-9	1
10-2	Ethylacetate	141-78-6	3
VVOC_{14d}: Further identified and calibrated substances in addition to LCI list/AgBB, substance specific calculated (C_{id sub})			
-	-	-	n.d.
VVOC_{14d}: Not calibrated, identified substances calculated as toluene equivalent (C_{ni tol})			
-	-	-	n.d.

Total very volatile organic compounds	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TVVOC_{14d}	6	12

n.d. = not detectable

1.1.8.1 Formaldehyde_{14d} and Acetaldehyde_{14d}

Test parameter:

Formaldehyde and Acetaldehyde, test chamber, air sampling 14 days after test chamber loading

Test method:

Preparation of test sample and Test chamber conditions:	see Volatile organic compounds
Analytics:	DIN ISO 16000-3
Limit of determination:	2 µg/m ³ ≈ 0,002 ppm

Test result:

Sample:	A001: Graphenstone Exterior
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Substance	Concentration (Test chamber air) [µg/m ³]	Concentration (Test chamber air) [ppm]
Formaldehyde	< 2	< 0,002
Acetaldehyde	< 2	-

2 VOC Content *

Test parameter: Volatile content

Test methods:

Method	Principle	Parameter	Detection limit	Uncertainty, Um (%)
LEED 2009 EQ c4.2 ASTM D 2369 - 10	Gravimetric	Total Volatiles, SCAQMD rule 304	1 g/l	10%
Karl Fischer	Titration	Water Content	-	20%

Volatile content of the sample was determined gravimetrically by heating up to 110 °C during 60 minutes.
 The result is the average of double testing. The result was calculated as:
 $([g \text{ all volatiles}] - [g \text{ water}] - [g \text{ exempt compounds}]) / ([l \text{ material}] - [l \text{ water}] - [l \text{ exempt compounds}])$

Um (%): The expanded uncertainty Um is equal to 2 x RSD%

Test result:

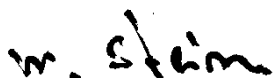
Sample: A001: Graphenstone Exterior

Sample	Solid content % mass	Water content % mass	Exempt compounds % mass	VOC less water less exempt compounds, g/l	VOC limit g/l
A001: Graphenstone Exterior	56.2	43.8	0***	< 1	550*

* VOC limit for "Shellac: Pigmented"

*** no information about exempt compounds. Set to zero.

Cologne, 13.03.2015



Michael Stein, Dipl.-Chem.
 (Deputy Technical Manager)

Expert evaluation (California Specification 01350)

The product **Graphenstone Exterior** has been tested on behalf of **INDUSTRIA ESPAÑOLA PARA EL DESARROLLO E INVESTIGACIÓN 2100, S.A.**

This evaluation bases on the test criteria of the „Emission testing method for California Specification 01350 (02/2010)“.

The VOC concentrations are calculated as Specific Emission Rate (SER_a). For the “Estimated Airborne Concentration in a standard private office” the SER_a is divided by area-specific flow rate of 1.86 m³/m²h for floorings in a standard private office (acc. to chapter 4.3 “IAQ Concentration Modelling”).

The results documented in the test report were evaluated as follows (acc. to Target CREL VOCs, CS01350, Table 4-1):

No.	Compound Name	CAS-No.	SER_a 14d [$\mu\text{g}/\text{m}^2\text{h}$]	Estimated Airborne Concentration in standard private of- fice (SER_a 14d divided by 1.86 m/h) [$\mu\text{g}/\text{m}^3$]	Allowable Concentration in standard private office [$\mu\text{g}/\text{m}^3$]
1-1	Toluene	108-88-3	10	5,38	150
1-2	Ethylbenzene	100-41-4	n.d.	n.d.	1000
1-4	p- Xylene,	106-42-3	n.d.	n.d.	350
1-5	m- Xylene,	108-38-3			
1-6	o- Xylene	95-47-6			
1-25	Styrene	100-42-5	n.d.	n.d.	450
1-30	Naphthalene	91-20-3	n.d.	n.d.	4.5
2-2	n-Hexane	110-54-3	n.d.	n.d.	3500
4-3	Isopropanol	67-63-0	n.d.	n.d.	3500
5-1	Phenol	108-95-2	n.d.	n.d.	100
6-2	Ethylene glycol (Ethandiol)	107-21-1	n.d.	n.d.	200
6-8	1-Methoxy-2-propanol	107-98-2	n.d.	n.d.	3500
6-13	2-Methoxyethanol	109-86-4	n.d.	n.d.	30
6-14	2-Ethoxyethanol	110-80-5	n.d.	n.d.	35
6-20	2-Methoxyethyl acetate	110-49-6	n.d.	n.d.	45
6-21	2-Ethoxyethyl acetate	111-15-9	n.d.	n.d.	150
7-20	Acetaldehyde	75-07-0	n.d.	n.d.	70
7-22	Formaldehyde	50-00-0	n.d.	n.d.	9
10-3	Vinyl acetat	108-05-4	n.d.	n.d.	100
11-1	Tetrachlorethene	127-18-4	n.d.	n.d.	17.5
12-1	Dioxane (1.4-)	123-91-1	n.d.	n.d.	1500
-	Benzene	71-43-2	n.d.	n.d.	30
-	1,4-Dichlorbenzene	106-46-7	n.d.	n.d.	400
-	Dimethylformamide (DMF)	68-12-2	n.d.	n.d.	40
-	Isophorone	78-59-1	n.d.	n.d.	1000
-	Trichlorethene	79-01-6	n.d.	n.d.	300
-	Carbon tetrachloride	56-23-5	n.d.	n.d.	20
-	Chlorobenzene	108-90-7	n.d.	n.d.	500
-	Chloroform	67-66-3	n.d.	n.d.	150

No.	Compound Name	CAS-No.	SER _a 14d [$\mu\text{g}/\text{m}^2\text{h}$]	Estimated Airborne Concentration in standard private of- fice (SER _a 14d divided by 1.86 m/h) [$\mu\text{g}/\text{m}^3$]	Allowable Concentration in standard private office [$\mu\text{g}/\text{m}^3$]
-	Dichloroethylene (1,1)	75-35-4	n.d.	n.d.	35
-	Epichlorohydrin	106-89-8	n.d.	n.d.	1.5
-	Methyl chloroform	71-55-6	n.d.	n.d.	500
-	Methylene chloride	75-09-2	n.d.	n.d.	200
-	Methyl t-butyl ether	1634-04-4	n.d.	n.d.	4000
-	Carbon disulfide	75-15-0	n.d.	n.d.	400

*) Standard private office: Volume 30,6 m³, Floor surface 11,1 m², Air change rate 0,68 h⁻¹,
Area specific emission flow rate 1,86 m³/m²h

n.d. = not detectable

Summary evaluation

The product **Graphenstone Exterior** meets the emission requirements of the "Emission testing method for California Specification 01350 (02/2010)".

Cologne, 14.04.2015



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(Project Manager)