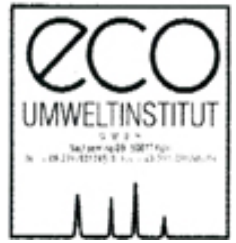


## TEST REPORT No. 12666-39

|                               |   |
|-------------------------------|---|
| <b>Description of Sample:</b> | <b>Product ID LFC02 - Beach</b>   |
| Kind of sample:               | Infinity Cork floating plank  |
| Page:                         | 1   |
| Number of pages:              | 9   |
| Testing parameter:            | <u>Emission (test chamber) after 28 days:</u><br>Formaldehyde<br>Phenol<br>Volatile Organic Compounds |



Sample geometry: unsealed edges in 1.5 (corresponding to  
relation to area U/A: DIN V ENV 717-1)  
Loading related to: Area  
Sample volume: 30.5 x 20.5 x 1.0 cm

Chamber conditions: according to the standards DIN EN 13419 and DIN EN 717-1

Volume: 0.125 m<sup>3</sup>  
Temperature: 23°C  
Relative Humidity: 45 %  
Pressure: Normal  
Air: Clean  
Air change rate: 1.0 h<sup>-1</sup>  
Loading: 1.0 m<sup>2</sup>/m<sup>3</sup>  
Specific air flow rate: 1 m<sup>3</sup>/m<sup>2</sup>\*h

Air specific emission rate (SER<sub>a</sub>) in  
milligram per square meter per hour.

The concentration value corresponds to  
the area specific emission rate in  
milligram per square meter per hour.

Sampling: 28 days after loading of test chamber



Formaldehyde (chamber)

| <b>Substance</b> | <b>Concentration<br/>[ppm]</b> | <b>Kork-Logo orientation<br/>value [ppm]</b> |
|------------------|--------------------------------|--|
| Formaldehyde     | < 0.01                         | 0.05   |

< = not detectable, below detection limit

Detection limit: 0.01 ppm

Test method: DIN V ENV 717-1 with following deviations:

1. The documented value of the formaldehyde emission is a single result at the documented sampling time. The proceeded test does not focus on a qualification according to the German "Chemical Prohibition Regulation (Chem VV)", therefore it does not display the equilibrium according to EN 717-1.
2. VDI-guideline 3484 (Sheet 1; Fairs of Aldenhyden - determining the formaldehyde concentration according to the sulfite Pararosaniilin procedure)
3. test chamber volume see volume (chamber conditions)
4. only one test specimen, no double determination

Phenol (chamber)

| <b>Substance</b> | <b>Concentration<br/>[mg/m<sup>3</sup>]</b> | <b>Kork-Logo orientation<br/>value [ppm]</b> |
|------------------|---|--|
| Phenol           | < 0.001                                     | 0.04   |

< = not detectable, below detection limit

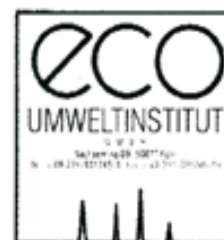
Detection limit: 0.0001 mg/m<sup>3</sup>

Test method: DIN ISO 16000-6

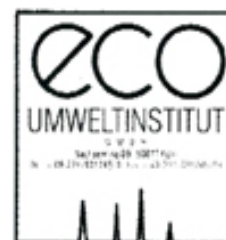


## Volatile organic compounds (VOC, test chamber)

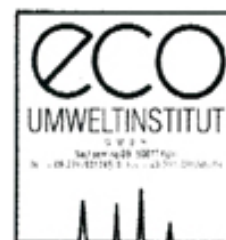
| <b>Substance/-group</b>      | <b>Concentration</b>      | <b>SER<sub>a</sub></b>     |
|------------------------------|---------------------------|----------------------------|
| <b>Aromatic Hydrocarbons</b> | <b>[mg/m<sup>3</sup>]</b> | <b>[mg/m<sup>2</sup>h]</b> |
| Benzene                      | < 0.001                   | < 0.001                    |
| Toluene                      | < 0.001                   | < 0.001                    |
| Ethylbenzene                 | < 0.001                   | < 0.001                    |
| m/p-Xylene                   | < 0.001                   | < 0.001                    |
| o-Xylene                     | < 0.001                   | < 0.001                    |
| 2-Ethyltoluene               | < 0.001                   | < 0.001                    |
| 3-Ethyltoluene               | < 0.001                   | < 0.001                    |
| 4-Ethyltoluene               | < 0.001                   | < 0.001                    |
| n-Propylbenzene              | < 0.001                   | < 0.001                    |
| Iso-Propylbenzene            | < 0.001                   | < 0.001                    |
| 1,2,4-Trimethylbenzene       | < 0.001                   | < 0.001                    |
| 1,3,5-Trimethylbenzene       | < 0.001                   | < 0.001                    |
| 1,2,3-Trimethylbenzene       | < 0.001                   | < 0.001                    |
| Sum Diethylbenzene           | < 0.001                   | < 0.001                    |
| 1,2,4,5-Tetramethylbenzene   | < 0.001                   | < 0.001                    |
| 1,2,3,5-Tetramethylbenzene   | < 0.001                   | < 0.001                    |
| 1,2,3,4-Tetramethylbenzene   | < 0.001                   | < 0.001                    |
| 1,3-Diisopropylbenzene       | < 0.001                   | < 0.001                    |
| 1,4-Diisopropylbenzene       | < 0.001                   | < 0.001                    |
| p-Cymene                     | < 0.001                   | < 0.001                    |
| Butylbenzene                 | < 0.001                   | < 0.001                    |
| Heptylbenzene                | < 0.001                   | < 0.001                    |
| Octylbenzene                 | < 0.001                   | < 0.001                    |
| Nonylbenzene                 | < 0.001                   | < 0.001                    |
| Decylbenzene                 | < 0.001                   | < 0.001                    |
| Undecylbenzene               | < 0.001                   | < 0.001                    |
| Naphthalene                  | < 0.001                   | < 0.001                    |
| 1-Methylnaphthalene          | < 0.001                   | < 0.001                    |
| 2-Methylnaphthalene          | < 0.001                   | < 0.001                    |
| Chlornaphthalene             | < 0.001                   | < 0.001                    |
| Styrene                      | < 0.001                   | < 0.001                    |
| Alpha-Methylstyrene          | < 0.001                   | < 0.001                    |
| Σ m,o,p-Methylstyrene        | < 0.001                   | < 0.001                    |
| 4-Phenyl-1-Cyclohexene       | < 0.001                   | < 0.001                    |
| Phenylacetylen               | < 0.001                   | < 0.001                    |
| Indene                       | < 0.001                   | < 0.001                    |



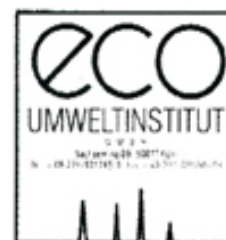
| <b>Substance/-group</b>       | <b>Concentration<br/>[mg/m<sup>3</sup>]</b> | <b>SER<sub>a</sub><br/>[mg/m<sup>2</sup>h]</b> |
|-------------------------------|---|--|
| <b>Aliphatic Hydrocarbons</b> |   |  |
| Iso-Octane                    | < 0.001                                     | < 0.001  |
| n-Hexane                      | < 0.001                                     | < 0.001  |
| n-Heptane                     | < 0.001                                     | < 0.001  |
| n-Octane                      | < 0.001                                     | < 0.001  |
| n-Nonane                      | < 0.001                                     | < 0.001  |
| n-Dacane                      | 0.003                                       | 0.003  |
| n-Undecane                    | 0.004                                       | 0.004  |
| n-Dodecane                    | < 0.001                                     | < 0.001  |
| n-Tridenace                   | < 0.001                                     | < 0.001  |
| n-Tetradecane                 | < 0.001                                     | < 0.001  |
| n-Pentadecane                 | < 0.001                                     | < 0.001  |
| n-Hexadecane                  | < 0.001                                     | < 0.001  |
| 2-Methylpentane               | < 0.001                                     | < 0.001  |
| 3-Methylpentane               | < 0.001                                     | < 0.001  |
| Methylcyclopentane            | < 0.001                                     | < 0.001  |
| Cyclohexane                   | < 0.001                                     | < 0.001  |
| Methylcyclohexane             | < 0.001                                     | < 0.001  |
| 1-Hexene                      | < 0.001                                     | < 0.001  |
| 1-Octene                      | < 0.001                                     | < 0.001  |
| 1-Decene                      | < 0.001                                     | < 0.001  |
| 2,4,4-Trimethyl-1-pentene     | < 0.001                                     | < 0.001  |
| 4-Vinylcyclohexene            | < 0.001                                     | < 0.001  |
| Dimethylcyclohexene           | < 0.001                                     | < 0.001  |
| Tert.-Butylcyclohexane        | < 0.001                                     | < 0.001  |
| <b>Terpenes</b>               |   |  |
| α-Pinene                      | < 0.001                                     | < 0.001  |
| β-Pinene                      | < 0.001                                     | < 0.001  |
| δ-3-Carene                    | < 0.001                                     | < 0.001  |
| Limonene                      | < 0.001                                     | < 0.001  |
| α-Terpinene                   | < 0.001                                     | < 0.001  |
| Borneol                       | < 0.001                                     | < 0.001  |
| TR.-Caryophyllene             | < 0.001                                     | < 0.001  |
| Terpeniol                     | < 0.001                                     | < 0.001  |
| <b>Alcohols</b>               |   |  |
| 2-Propanol                    | < 0.001                                     | < 0.001  |
| 1-Butanol                     | < 0.001                                     | < 0.001  |
| 2-Ethyl-1-hexanol             | < 0.001                                     | < 0.001  |
| Terpineol                     | < 0.001                                     | < 0.001  |



| <b>Substance/-group</b>       | <b>Concentration</b><br><b>[mg/m<sup>3</sup>]</b> | <b>SER<sub>a</sub></b><br><b>[mg/m<sup>2</sup>h]</b> |
|-------------------------------|---|--|
| <b>Glycols</b>                |   |  |
| Ethylene glycol               | < 0.001   | < 0.001  |
| Diethylene glycol             | < 0.001   | < 0.001  |
| 1,2-Propandiol                | 0.002   | 0.002  |
| 1,3-Propandiol                | < 0.001   | < 0.001  |
| 2-Methoxythanol               | < 0.001   | < 0.001  |
| 2-Ethoxythanol                | < 0.001   | < 0.001  |
| 2-Butoxythanol                | 0.035   | 0.035  |
| 1-Methoxy-2-propanol          | < 0.001   | < 0.001  |
| 2-Butoxyethoxyethanol         | < 0.001   | < 0.001  |
| 2-Phenoxyethanol              | < 0.001   | < 0.001  |
| 1-Butoxy-2-propanol           | < 0.001   | < 0.001  |
| 2-Ethoxyethylacetate          | < 0.001   | < 0.001  |
| 2-Ethoxyethoxyethanol         | < 0.001   | < 0.001  |
| 2-Methyl-2,4-pentandiol       | < 0.001   | < 0.001  |
| Isopropoxyethanol             | < 0.001   | < 0.001  |
| 2-Ethoxyethylether            | < 0.001   | < 0.001  |
| 2-(2-Methyloxy-ethoxy)ethanol | < 0.001   | < 0.001  |
| 3-Ethoxy-1-propanol           | < 0.001   | < 0.001  |
| Diethylenglykolhexylether     | < 0.001   | < 0.001  |
| Diethylenglykolmethylether    | < 0.001   | < 0.001  |
| 2-Methoxyethylacetate         | < 0.001   | < 0.001  |
| 2-Ethoxyethylacetate          | < 0.001   | < 0.001  |
| 2-Butoxyethylacetate          | < 0.001   | < 0.001  |
| 1-Methoxy-2-propanolacetate   | < 0.001   | < 0.001  |
| 2-Butoxyethoxyethyl-acetate   | 0.002   | 0.002  |
| <b>Aldehydes</b>              |   |  |
| n-Butanal                     | < 0.001   | < 0.001  |
| n-Pentanal                    | < 0.001   | < 0.001  |
| n-Hexanal                     | < 0.001   | < 0.001  |
| n-Heptanal                    | < 0.001   | < 0.001  |
| n-Oktanal                     | < 0.001   | < 0.001  |
| n-Nonanal                     | 0.002   | 0.002  |
| n-Dekanal                     | 0.003   | 0.003  |
| n-Butenal                     | < 0.001   | < 0.001  |
| n-Pentenal                    | < 0.001   | < 0.001  |
| n-Hexenal                     | < 0.001   | < 0.001  |
| n-Heptenal                    | < 0.001   | < 0.001  |
| n-Octenal                     | < 0.001   | < 0.001  |
| n-Nonenal                     | < 0.001   | < 0.001  |
| n-Decenal                     | < 0.001   | < 0.001  |
| n-Undecenal                   | < 0.001   | < 0.001  |
| Benzaldehyde                  | < 0.001   | < 0.001  |
| 2,5-Dimethylbenzaldehyde      | < 0.001   | < 0.001  |
| Glutardialdehyde              | < 0.001   | < 0.001  |
| Furfurol                      | < 0.001   | < 0.001  |
| 5-Methylfurfural              | < 0.001   | < 0.001  |



| <b>Substance/-group</b>   | <b>Concentration</b><br><b>[mg/m<sup>3</sup>]</b> | <b>SER<sub>a</sub></b><br><b>[mg/m<sup>2</sup>h]</b> |
|---------------------------|---|--|
| <b>Ketones</b>            |   |  |
| Methylethylketone         | < 0.001   | < 0.001  |
| Methylisobutylketone      | < 0.001   | < 0.001  |
| 2-Pentanone               | < 0.001   | < 0.001  |
| Cyclohexanone             | < 0.001   | < 0.001  |
| 4-Methylcyclohexanone     | < 0.001   | < 0.001  |
| Diisopropylketone         | < 0.001   | < 0.001  |
| Acetophenone              | < 0.001   | < 0.001  |
| Benzophenone              | < 0.001   | < 0.001  |
| <b>Acids</b>              |   |  |
| Hexanoic acid             | < 0.001   | < 0.001  |
| 2-Ethylhexanoic acid      | < 0.001   | < 0.001  |
| <b>Esters</b>             |   |  |
| Methylacetate             | < 0.001   | < 0.001  |
| Ethylacetate              | < 0.001   | < 0.001  |
| Butylacetate              | < 0.001   | < 0.001  |
| Isobutylacetate           | < 0.001   | < 0.001  |
| 3-Methylbutylacetate      | < 0.001   | < 0.001  |
| Vinylacetate              | < 0.001   | < 0.001  |
| Methyldecanoat            | < 0.001   | < 0.001  |
| <b>Phenols</b>            |   |  |
| 4-Chloro-3-methyl-phenol  | < 0.001   | < 0.001  |
| o-Cresole                 | < 0.001   | < 0.001  |
| m,p-Cresole               | < 0.001   | < 0.001  |
| <b>Halocarbons</b>        |   |  |
| cis-1,2-Dichlorethene     | < 0.001   | < 0.001  |
| trans-1,2-Dichlorethene   | < 0.001   | < 0.001  |
| Trichlorethene            | < 0.001   | < 0.001  |
| Tetrachlorethene          | < 0.001   | < 0.001  |
| 1,1,1-Trichlorethene      | < 0.001   | < 0.001  |
| 1,4-Dichlorbenzene        | < 0.001   | < 0.001  |
| Trichlormethane           | < 0.001   | < 0.001  |
| Tetrachlormethene         | < 0.001   | < 0.001  |
| 1,2-Dichlorbenzene        | < 0.001   | < 0.001  |
| 1,3-Dichlorbenzene        | < 0.001   | < 0.001  |
| 1,2,3-Trichlorbenzene     | < 0.001   | < 0.001  |
| 1,2,4-Trichlorbenzene     | < 0.001   | < 0.001  |
| 1,3,5-Trichlorbenzene     | < 0.001   | < 0.001  |
| 1,2,3,5-Tetrachlorbenzene | < 0.001   | < 0.001  |
| 1,2,4,5-Tetrachlorbenzene | < 0.001   | < 0.001  |



| <b>Substance/-group</b>   | <b>Concentration</b><br><b>[mg/m<sup>3</sup>]</b> | <b>SER<sub>a</sub></b><br><b>[mg/m<sup>2</sup>h]</b> |
|---|---|--|
| <b>Phthalates</b>   |   |  |
| DMP   | < 0.001   | < 0.001  |
| DEP   | < 0.001   | < 0.001  |
| DPP   | < 0.001   | < 0.001  |
| DnBP  | < 0.001   | < 0.001  |
| DiBP  | 0.001   | 0.001  |
| <b>Acrylates</b>  |   |  |
| Ethylacrylate   | < 0.001   | < 0.001  |
| Methylacrylate  | < 0.001   | < 0.001  |
| n-Butylacrylate   | < 0.001   | < 0.001  |
| Isobutyl-methacrylate   | < 0.001   | < 0.001  |
| t-Butylacrylate   | < 0.001   | < 0.001  |
| Methyl-methacrylate   | < 0.001   | < 0.001  |
| Butyl-methacrylate  | < 0.001   | < 0.001  |
| 2-Ethylhexylacrylate  | < 0.001   | < 0.001  |
| Glycid-methacrylate   | < 0.001   | < 0.001  |
| 1,6-Hexadioldiacrylate  | < 0.001   | < 0.001  |
| <b>Siloxane</b>   |   |  |
| Hexamethylcyclotrisiloxane  | < 0.001   | < 0.001  |
| Octamethylcyclotrisiloxane  | < 0.001   | < 0.001  |
| Decamethylcyclotrisiloxane  | < 0.001   | < 0.001  |
| <b>Other calibrated VOC</b>   |   |  |
| TXIC ® <sup>1</sup>   | < 0.001   | < 0.001  |
| Texanol ®   | < 0.001   | < 0.001  |
| 2-Pentylfuran   | < 0.001   | < 0.001  |
| THF   | < 0.001   | < 0.001  |
| Aniline   | < 0.001   | < 0.001  |
| DMF   | < 0.001   | < 0.001  |
| 1-ME-2-pyrrolidone  | 0.001   | 0.001  |
| Benzothiazene   | < 0.001   | < 0.001  |
| BHT   | < 0.001   | < 0.001  |
| Total calibrated VOC:   | <b>0.053</b>                                      | <b>0.053</b>   |
| <b>Other non-calibrated VOC,<br/>quantified as toluene-equivalent</b> |   |  |
| Two glycoethers, total  | 0.110   | 0.110  |
| Two glycoethers, total  | 0.013   | 0.013  |
|   | 0.002   | 0.002  |
| Total non-calibrated VOC:   | <b>0.125</b>                                      | <b>0.125</b>   |
| Total VOC:  | <b>0.178</b>                                      | <b>0.178</b>   |
| <b>Kork-Logo-orientation value</b>                                    | <b>0.2</b>  | <b>0.2</b>   |

<sup>1 1</sup> TXIB ® = 2,2,4-teimethyl-1,3-pentandiol diisobutylrat



| <b>Substance/-group<br/>Esters</b> | <b>Concentration<br/>[mg/m<sup>3</sup>]</b> | <b>SER<sub>a</sub><br/>[mg/m<sup>2</sup>h]</b> |
|------------------------------------|---|--|
| Succinicaciddimethylester          | < 0.001                                     | < 0.001  |
| Glutaricaciddimethylester          | < 0.001                                     | < 0.001  |
| Adipicaciddimethylester            | 0.001                                       | 0.001  |
| <b>Total:</b>                      | < 0.001                                     | < 0.001  |

< = not detectable, below detection limit

Detection limit: 0.001 mg/m<sup>3</sup>  $\cong$  1  $\mu$ g/m<sup>3</sup>

Test method: DIN ISO 16000-6

Cologne, 17.1.2005

Dr. H.-U. Krieg  
(Laboratory Manager)

### Assessment of the results

The tested sample fulfills the criteria of the Kork-Logo to the above mentioned range.

Cologne, 17.1.2005

Dr. Frank Keubart  
(Project Manager)