



**Forschungsinstitut für Pigmente und Lacke e.V.**

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Prüfbericht – Nr.:  
AT 097/04

Abteilung Anwendungstechnik

Seite 1 von 4

### Test Report

|                                       |   |
|---------------------------------------|---|
| <b>Customer:</b>                      | JUB Kemična industrija d.d.<br>1262 Dol pri Ljubljani 28<br>Slowenien   |
| <b>Date of commission:</b>            | 22.09.2004  |
| <b>Sample taking:</b>                 | by the customer   |
| <b>Storing of sample material:</b>    | All samples are stored 25 month after delivering the results to the customer, unless the sample material was used up or destroyed by chemical reaction or any other agreements were made.               |
| <b>Item of contract:</b>              | <b>Interior emulsion wall paint :</b><br><br><ul style="list-style-type: none"><li>- <b>Jupol Latex - Matt</b></li><li>- <b>Jupol Latex - Seidenmatt</b></li><li>- <b>Jupol Latex - Saten</b></li></ul> |
| <b>Purpose:</b>                       | Determination of the resistance of interior wall paints to disinfectants  |
| <b>Beginning of tests:</b>            | 28.09.2004  |
| <b>End of tests:</b>                  | 01.12.2004  |
| <b>Designation of the laboratory:</b> | Application technique   |

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Seite 2 von 4

**Enclosures:** enclosure 1- 6

**Test method:** **Determination of the resistance of interior wall paints to 4 disinfectants (ISO 2812-1)**

Method 2: The coatings were charged with compressed paper-board pads, soaked with the disinfectants. The pads were covered with watch glasses

Test temperature: 23 °C ± 2 °C

| disinfectants                  | concentration [%] | test period (h) |
|--------------------------------|-------------------|-----------------|
| Hexaquart S<br>(Braun)         | 1,00              | 1,0             |
| Surfanios Citron<br>(Anios)    | 0,25              | 4,0             |
| Incidur<br>(Ecolab)            | 0,50              | 4,0             |
|                                | 0,75              | 1,0             |
|                                | 3,00              | 1,0             |
| Kohrsolin FF<br>(Bode Chemie ) | 0,75              | 1,0             |
|                                | 1,00              | 0,5             |
|                                | 3,00              | 0,5             |

| disinfectants    | composition (active agents)  |
|------------------|--|
| Hexaquart S      | Didecyldimethylammoniumchlorid, Benzalkoniumchlorid                |
| Surfanios Citron | Didecyldimethylammoniumchlorid, Aminosäurehydrochlorid             |
| Incidur          | Glyoxal, Glutaral  |
| Kohrsolin FF     | Glutaraldehyd, Benzalkoniumchlorid, Didecyldimethylammoniumchlorid |

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Seite 3 von 4

**Test result:**

As can be seen in enclosure 1 to 6, there were no changes on the coating surface of **Jupol Latex –Matt** after stressing with the different disinfectants.

**Jupol Latex –Seidenmatt** showed small blisters directly after the influence of the disinfectants Hexaquart S, Surfanios Citron and Incidur (3 % ig, 1 h ), which disappeared 24 hours after the test.

24 hours after the test **Jupol Latex –Seidenmatt** showed either no changes of the coating surface or only small changes with the values of 0-1 to 1 on a relative scale from 0 to 5. The changes can be described as follows:

- Imprints of the pad structure and the rim of the pad
- loss of gloss on the stressed surface

These small changes can be seen in most cases only under artificial illumination.

**Jupol Latex - Saten** showed directly and 24 hours after the influence of the disinfectants small changes of the surface of the values 0-1 to 1-2. The changes are similar to that on **Jupol Latex –Seidenmatt** and can be seen also in most cases only under artificial illumination.

**Comments\*:**

The test results refer to the samples, only. This test report may not be published (even not in parts) without the allowance of the FPL.

\* The comments are an additional interpretation (opinion) beyond the test methods.



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Abteilung Anwendungstechnik

Seite 4 von 4

Stuttgart, 22.12.2004

i.A.

K. Gaszner  
Application technique

i. A.

E. Fischer  
tester

**Resistance of 3 "Latex" paints to 4 disinfectants at room temperature -  
assessment directly after the test**

**a) Assessment according to EN ISO 4628-1:2003(D)**

| value | intensity of the change   | value | intensity of the change           |
|-------|---------------------------|-------|-----------------------------------|
| 0     | no visible change         | 3     | medium, distinctly visible change |
| 1     | very small visible change | 4     | strong visible change             |
| 2     | small visible change      | 5     | very strong visible change        |

**b) Assessment according to EN ISO 4628-2: evaluation of blistering**

| disinfectant                                   | sample | assessment<br>after [h] | Jupol Latex<br>- Matt | sample | Jupol Latex<br>- Seidenmatt | sample | Jupol Latex<br>- Saten                     |
|--|--------|-------------------------|-----------------------|--------|-----------------------------|--------|--|
|  |        |                         | value                 |        | value                       |        | value                                      |
| <b>Hexaquart S<br/>(1%)</b><br>1h test period  | 4/1/a  | at once                 | 0                     | 5/1/a  | m5/g2                       | 6/1/a  | 1 (artificial illumination and daylight)   |
|  | 4/1/b  | at once                 | 0                     | 5/1/b  | m5/g2                       | 6/1/b  | 1 (artificial illumination and daylight)   |
|  | 4/1/c  | at once                 | 0                     | 5/1/c  | m5/g2                       | 6/1/c  | 1 (artificial illumination and daylight)   |
| <b>Surfanios<br/>(0,25%)</b><br>4h test period | 4/2/a  | at once                 | 0                     | 5/2/a  | m5/g2(-3)                   | 6/2/a  | 1-2 (artificial illumination and daylight) |
|  | 4/2/b  | at once                 | 0                     | 5/2/b  | m5/g2                       | 6/2/b  | 1-2 (artificial illumination and daylight) |
|  | 4/2/c  | at once                 | 0                     | 5/2/c  | m5/g2(-3)                   | 6/2/c  | 1-2 (artificial illumination and daylight) |

**Resistance of 3 "Latex" paints to 4 disinfectants at room temperature -  
assessment 24 hours after the test**

**a) assessment according to EN ISO 4628-1:2003(D)**

| value | intensity of the change   | value | intensity of the change           |
|-------|---------------------------|-------|-----------------------------------|
| 0     | no visible change         | 3     | medium, distinctly visible change |
| 1     | very small visible change | 4     | strong visible change             |
| 2     | small visible change      | 5     | very strong visible change        |

| disinfectant                                    | sample | assessment<br>after [h] | Jupol Latex<br>- Matt | sample | Jupol Latex<br>- Seidenmatt   | sample | Jupol Latex<br>- Saten        |
|---|--------|-------------------------|-----------------------|--------|-------------------------------|--------|-------------------------------|
|   |        |                         | value                 |        | value                         |        | value                         |
| <b>Hexaquart S</b><br>(1,00%)<br>1h test period | 4/1/a  | 24                      | 0                     | 5/1/a  | 0                             | 6/1/a  | 0-1 (artificial illumination) |
|   | 4/1/b  | 24                      | 0                     | 5/1/b  | 0                             | 6/1/b  | 0-1 (artificial illumination) |
|   | 4/1/c  | 24                      | 0                     | 5/1/c  | 0                             | 6/1/c  | 0-1 (artificial illumination) |
| <b>Surfanios</b><br>(0,25%)<br>4h test period   | 4/2/a  | 24                      | 0                     | 5/2/a  | 0-1 (artificial illumination) | 6/2/a  | 1-2 (artificial illumination) |
|   | 4/2/b  | 24                      | 0                     | 5/2/b  | 0-1 (artificial illumination) | 6/2/b  | 1-2 (artificial illumination) |
|   | 4/2/c  | 24                      | 0                     | 5/2/c  | 0-1 (artificial illumination) | 6/2/c  | 1-2 (artificial illumination) |

**Resistance of 3 "Latex" paints to 4 disinfectants at room temperature -  
assessment directly after the test**

**a) assessment according to EN ISO 4628-1:2003(D)**

| value | intensity of the change   | value | intensity of the change           |
|-------|---------------------------|-------|-----------------------------------|
| 0     | no visible change         | 3     | medium, distinctly visible change |
| 1     | very small visible change | 4     | strong visible change             |
| 2     | small visible change      | 5     | very strong visible change        |

**b) Assessment according to EN ISO 4628-2: evaluation of blistering**

| disinfectant               | sample  | assessment<br>after [h] | Jupol Latex<br>- Matt | sample | Jupol Latex<br>- Seidenmatt | sample | Jupol Latex<br>- Saten      |
|----------------------------|---------|-------------------------|-----------------------|--------|-----------------------------|--------|-----------------------------|
|                            |         |                         | value                 |        | value                       |        | value                       |
| a) 0,50%<br>4h test period | 4/3a/a  | at once                 | 0                     | 5/3a/a | 1 (artificial illumination) | 6/3a/a | 1 (artificial illumination) |
|                            | 4/3a/b  | at once                 | 0                     | 5/3a/b | 1 (artificial illumination) | 6/3a/b | 1 (artificial illumination) |
|                            | 4/3a1/c | at once                 | 0                     | 5/3a/c | 1 (artificial illumination) | 6/3a/c | 1 (artificial illumination) |
| b) 0,75%<br>1h test period | 4/3b/a  | at once                 | 0                     | 5/3b/a | 1 (artificial illumination) | 6/3b/a | 1 (artificial illumination) |
|                            | 4/3b/b  | at once                 | 0                     | 5/3b/b | 1 (artificial illumination) | 6/3b/b | 1 (artificial illumination) |
|                            | 4/3b/c  | at once                 | 0                     | 5/3b/c | 1 (artificial illumination) | 6/3b/c | 1 (artificial illumination) |
| c) 3,00%<br>1h test period | 4/3c/a  | at once                 | 0                     | 5/3c/a | m5/g2                       | 6/3c/a | 1 (artificial illumination) |
|                            | 4/3c/b  | at once                 | 0                     | 5/3c/b | m5/g2                       | 6/3c/b | 1 (artificial illumination) |
|                            | 4/3c/c  | at once                 | 0                     | 5/3c/c | m5/g2                       | 6/3c/c | 1 (artificial illumination) |

**Resistance of 3 "Latex" paints to 4 disinfectants at room temperature -  
assessment 24 hours after the test**

**a) assessment according to EN ISO 4628-1:2003(D)**

| value | intensity of the change   | value | intensity of the change           |
|-------|---------------------------|-------|-----------------------------------|
| 0     | no visible change         | 3     | medium, distinctly visible change |
| 1     | very small visible change | 4     | strong visible change             |
| 2     | small visible change      | 5     | very strong visible change        |

| disinfectant                                 | sample  | assessment<br>after [h] | Jupol Latex<br>- Matt | sample | Jupol Latex<br>- Seidenmatt | sample | Jupol Latex<br>- Saten        |
|--|---------|-------------------------|-----------------------|--------|-----------------------------|--------|-------------------------------|
|  |         |                         | value                 |        | value                       |        | value                         |
| <b>Incidur</b><br>a) 0,50%<br>4h test period | 4/3a/a  | 24                      | 0                     | 5/3a/a | 1 (artificial illumination) | 6/3a/a | 0-1 (artificial illumination) |
|  | 4/3a/b  | 24                      | 0                     | 5/3a/b | 1 (artificial illumination) | 6/3a/b | 0-1 (artificial illumination) |
|  | 4/3a1/c | 24                      | 0                     | 5/3a/c | 1 (artificial illumination) | 6/3a/c | 0-1 (artificial illumination) |
| <b>Incidur</b><br>b) 0,75%<br>1h test period | 4/3b/a  | 24                      | 0                     | 5/3b/a | 1 (artificial illumination) | 6/3b/a | 0-1 (artificial illumination) |
|  | 4/3b/b  | 24                      | 0                     | 5/3b/b | 1 (artificial illumination) | 6/3b/b | 0-1 (artificial illumination) |
|  | 4/3b/c  | 24                      | 0                     | 5/3b/c | 1 (artificial illumination) | 6/3b/c | 0-1 (artificial illumination) |
| <b>Incidur</b><br>c) 3,00%<br>1h test period | 4/3c/a  | 24                      | 0                     | 5/3c/a | 1 (artificial illumination) | 6/3c/a | 0-1 (artificial illumination) |
|  | 4/3c/b  | 24                      | 0                     | 5/3c/b | 1 (artificial illumination) | 6/3c/b | 0-1 (artificial illumination) |
|  | 4/3c/c  | 24                      | 0                     | 5/3c/c | 1 (artificial illumination) | 6/3c/c | 0-1 (artificial illumination) |



**Resistance of 3 "Latex" paints to 4 disinfectants at room temperature -  
assessment directly after the test**

**a) Assessment according to EN ISO 4628-1:2003(D)**

| value | intensity of the change   | value | intensity of the change           |
|-------|---------------------------|-------|-----------------------------------|
| 0     | no visible change         | 3     | medium, distinctly visible change |
| 1     | very small visible change | 4     | strong visible change             |
| 2     | small visible change      | 5     | very strong visible change        |

| disinfectant                 | sample  | assessment<br>after [h] | Jupol Latex<br>- Matt | sample | Jupol Latex<br>- Seidenmatt   | sample | Jupol Latex<br>- Saten        |
|------------------------------|---------|-------------------------|-----------------------|--------|-------------------------------|--------|-------------------------------|
|                              |         |                         | value                 |        | value                         |        | value                         |
| a) 0,75%<br>1h test period   | 4/4a/a  | at once                 | 0                     | 5/4a/a | 1 (artificial illumination)   | 6/4a/a | 1 (artificial illumination)   |
|                              | 4/4a/b  | at once                 | 0                     | 5/4a/b | 1 (artificial illumination)   | 6/4a/b | 1 (artificial illumination)   |
|                              | 4/4a1/c | at once                 | 0                     | 5/4a/c | 1 (artificial illumination)   | 6/4a/c | 1 (artificial illumination)   |
| b) 1,00%<br>0,5h test period | 4/4b/a  | at once                 | 0                     | 5/4b/a | 1 (artificial illumination)   | 6/4b/a | 1 (artificial illumination)   |
|                              | 4/4b/b  | at once                 | 0                     | 5/4b/b | 1 (artificial illumination)   | 6/4b/b | 1 (artificial illumination)   |
|                              | 4/4b/c  | at once                 | 0                     | 5/4b/c | 1 (artificial illumination)   | 6/4b/c | 1 (artificial illumination)   |
| c) 3,00%<br>0,5h test period | 4/4c/a  | at once                 | 0                     | 5/4c/a | 0-1 (artificial illumination) | 6/4c/a | 0-1 (artificial illumination) |
|                              | 4/4c/b  | at once                 | 0                     | 5/4c/b | 0-1 (artificial illumination) | 6/4c/b | 0-1 (artificial illumination) |
|                              | 4/4c/c  | at once                 | 0                     | 5/4c/c | 0-1 (artificial illumination) | 6/4c/c | 0-1 (artificial illumination) |

**Resistance of 3 "Latex" paints to 4 disinfectants at room temperature -  
assessment 24 hours after the test**

**a) assessment according to EN ISO 4628-1:2003(D)**

**value intensity of the change**

|   |                           |
|---|---------------------------|
| 0 | no visible change         |
| 1 | very small visible change |
| 2 | small visible change      |

**value intensity of the change**

|   |                                   |
|---|-----------------------------------|
| 3 | medium, distinctly visible change |
| 4 | strong visible change             |
| 5 | very strong visible change        |

| disinfectant                 | sample  | assessment<br>after [h] | Jupol Latex<br>- Matt | sample | Jupol Latex<br>- Seidenmatt   | sample | Jupol Latex<br>- Saten        |
|------------------------------|---------|-------------------------|-----------------------|--------|-------------------------------|--------|-------------------------------|
|                              |         |                         | value                 |        | value                         |        | value                         |
| a) 0,75%<br>1h test period   | 4/4a/a  | 24                      | 0                     | 5/4a/a | 1 (artificial illumination)   | 6/4a/a | 1 (artificial illumination)   |
|                              | 4/4a/b  | 24                      | 0                     | 5/4a/b | 1 (artificial illumination)   | 6/4a/b | 1 (artificial illumination)   |
|                              | 4/4a1/c | 24                      | 0                     | 5/4a/c | 1 (artificial illumination)   | 6/4a/c | 1 (artificial illumination)   |
| b) 1,00%<br>0,5h test period | 4/4b/a  | 24                      | 0                     | 5/4b/a | 1 (artificial illumination)   | 6/4b/a | 1 (artificial illumination)   |
|                              | 4/4b/b  | 24                      | 0                     | 5/4b/b | 1 (artificial illumination)   | 6/4b/b | 1 (artificial illumination)   |
|                              | 4/4b/c  | 24                      | 0                     | 5/4b/c | 1 (artificial illumination)   | 6/4b/c | 1 (artificial illumination)   |
| c) 3,00%<br>0,5h test period | 4/4c/a  | 24                      | 0                     | 5/4c/a | 0 (artificial illumination)   | 6/4c/a | 0-1 (artificial illumination) |
|                              | 4/4c/b  | 24                      | 0                     | 5/4c/b | 0-1 (artificial illumination) | 6/4c/b | 0-1 (artificial illumination) |
|                              | 4/4c/c  | 24                      | 0                     | 5/4c/c | 0-1 (artificial illumination) | 6/4c/c | 0-1 (artificial illumination) |