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**Evaluation of the
effectiveness of

CHEMISEPT G

against
Vaccinia virus strain Elstree**

Test method according to guideline of BGA and DVV

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6. Results

In parallel with the inactivation tests, cytotoxicity of the 0.7% formaldehyde solution and of the hand disinfectant was measured (Table 1). The formaldehyde solution was toxic for the Vero cells in the 1:100 dilutions. This corresponded to a $\log_{10}CD_{50}/mL$ of 3.50. Examinations showed that the hand disinfectant (80.0%) also had a $\log_{10}CD_{50}/mL$ of 3.50 (cytotoxicity in the 1:100 dilutions).

These tests to measure the cytotoxicity are imperative, because in this way the lower detection threshold for non-inactivated vaccinia virus is determined.

Formaldehyde (0.7%) reduced the vaccinia virus titre after 5 and 15 minutes by 1.12 and 1.50 \log_{10} steps. Reduction factors of 1.75 and 2.75 were measured after 30 and 60 minutes contact time (table 2).

Results of inactivation tests are found in table 2. CHEMISEPT G was tested undiluted. Due to the addition of virus suspension and interfering substances a test concentration of 80.0% resulted. The exposure times were 0.5, 1.0, 2.0 and 5.0 minutes.

The hand disinfectant CHEMISEPT G exhibited a strong virucidal efficacy against the test virus. After an exposure time of 30 seconds no vaccinia virus was detectable any longer. The virus titres were reduced by ≥ 4.25 (assay without interfering substances), ≥ 4.00 (assay with BSA) and $\geq 4.25 \log_{10}$ -steps (assay with FCS). This corresponds in all cases to an inactivation of $\geq 99.99\%$. According to the guideline of BGA/DVV, a disinfectant or a disinfectant solution at a particular concentration is having virus-inactivating efficacy if within the recommended exposure period the titre is reduced at least by four \log_{10} steps.

Due to the lack of virological guidelines simulating practical conditions in Europe (phase 2, step 2 tests) the data of this quantitative suspension test lead to the recommendation to use the hand disinfectant CHEMISEPT G for inactivation of vaccinia virus as follows:

undiluted

30 s

Bremen, 2006-02-18



- Dr. J. Steinmann -