

3.4 postvalue

Number of colony forming units (cfu) sampled from hands after treatment.

3.5 reduction factor (RF)

Ratio of prevalues and postvalues, generally expressed by decimal logarithms :

$$\log_{10} \text{RF} = \log_{10} \text{prevalue} - \log_{10} \text{postvalue}$$

4 Requirements

When tested in accordance with clause 5, the mean reduction of the release of test organisms achieved by the hygienic handrub product shall not be significantly smaller than that achieved by a reference handrub (R) (see 5.6.4.2) with propan-2-ol 60 % (V/V).

Products under test shall at least have a bactericidal activity as specified in prEN 12054.

5 Test method

5.1 Principle

The number of test organisms released from the fingertips of artificially contaminated hands is assessed before and after the hygienic handrub. The ratio of the two resulting values is called the reduction factor. It represents a measure of the antimicrobial activity of the hygienic handrub product tested. The necessary precision is achieved by repeating the test on 12 to 15 subjects. To compensate for extraneous influences it is compared with the reduction factor obtained with a parallel reference handrub procedure (R) which is performed with the same subjects, on the same day and under comparable environmental conditions.

5.2 Experimental design

For testing one product at a time a cross-over design is used. The subjects are randomly divided into two groups of approximately the same size. The test is first performed with group 1 using the reference handrub procedure (see 5.6.4.2) and group 2 using the handrub procedure with the test product (see 5.6.4.3).

The test is then repeated on the same day with group 1 using the handrub procedure with the test product and group 2 using the reference handrub procedure. Before every reference handrub procedure and every handrub procedure with the test product, the procedure described in 5.6.2 and 5.6.3 shall be carried out.

For testing more than one product at a time, a Latin-square design is used with as many groups of subjects and as many experimental runs as there are handrub products (including the reference propan-2-ol). In each run all handrub procedures are employed in parallel. At the end of the whole series of runs every subject shall have used each handrub product once.