



Expert opinion on the sporicidal efficacy of Olympus EndoDis + Olympus EndoAct tested against *Bacillus subtilis* according to EN 13704

1. Summary

Olympus EndoDis + Olympus EndoAct is designed for use in chemo-thermal disinfection procedures. The product combination was tested for its sporicidal efficacy according to EN 13704 under clean conditions. A 1 % Olympus EndoDis application solution proved to be effective if used with 1 % Olympus EndoAct at room temperature as well as at 35 °C within 5 minutes.

2. Introduction

The product-combination consisting of Olympus EndoDis + Olympus EndoAct is designed for use in chemo-thermal instrument disinfection procedures. The combination was tested for its efficacy against *Bacillus subtilis* spore suspension according to the European Guideline EN 13704 (Phase II, step 1 suspension test) under clean and dirty conditions. Experiments were performed in VTB-Microbiology, Henkel KGaA and are documented under B01.00467.

3. Material and Methods

Test product:

Olympus EndoDis,
Olympus EndoAct.

Application concentrations:

1 % Olympus EndoDis + 1 % Olympus EndoAct.

Spore suspension:

Bacillus subtilis, DSM347.

Test conditions:

Suspension test according to EN 13704 with *Bacillus subtilis* and 5 min contact time at room temperature and at 35 °C. A log reduction factor of ≥ 3 is regarded as sufficient according to the standard.



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Protein load:

Clean conditions: 0.03 % bovine serum albumin (BSA).

Neutralisation:

3 % Tween 80 + 0.3 % lecithin + 0.1 % thiosulphate + 0.5 % histidine.

4. Results

Olympus EndoDis in combination with Olympus EndoAct proved to be an effective combination against a spore suspension of *Bacillus subtilis*. As to be seen in table 1 this test germ could be completely killed by a 1 % Olympus EndoDis solution + 1.0 % Olympus EndoAct at room temperature as well as at 35° C.

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Tab. 1

**Efficacy of Olympus EndoDis + Olympus EndoAct against
Bacillus subtilis spore suspension
 tested according to EN 13704.
 Results of the quantitative suspension test.**

<i>Temperature 20 °C</i>				
<i>Protein load</i>	<i>Contact time [min]</i>	<i>Olympus EndoDis + Olympus EndoAct</i>		
		<i>A</i>	<i>1.0 % + 1.0 %</i>	
			<i>C</i>	<i>R</i>
<i>Clean conditions</i>	5	8.1×10^1	5.4×10^1	$> 10^3$
<i>Temperature 35 °C</i>				
<i>Protein load</i>	<i>Contact time [min]</i>	<i>Olympus EndoDis + Olympus EndoAct</i>		
		<i>A</i>	<i>1.0 % + 1.0 %</i>	
			<i>C</i>	<i>R</i>
<i>Clean conditions</i>	5	8.9×10^1	5.8×10^1	$>10^3$

- A** = cfu/ml of the control of the experimental conditions, values see table
- C** = cfu/ml in the control experiment for confirmation of the neutralisation, values see table
- R** = log 10 reduction factor, values see table
- B** = cfu/ml in the control checking the toxicity of the neutralisation solution 7.3×10^1 cfu/ml
- N** = cfu/ml of the initial germ suspension, 1.5×10^6 cfu/ml
- N_v** = cfu/ml of the germ suspension taken for validation of neutralisation, 9.2×10^2 cfu/ml