



**Henkel AG & Co. KGaA**  
Microbiology

**Test report**

21-06176-3

on the  
levurocidal efficacy

of

**Active Anolyte**

**according to the principles of DIN EN 13624:**  
*Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of  
fungicidal or yeasticidal activity in the medical area –  
Test method and requirements (phase 2, step 1);  
German version EN 13624:2013*

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## 1. Test laboratory

Henkel AG & Co. KGaA  
Corporate Scientific Services / Microbiology  
D-40191 Düsseldorf

## 2. Identity of the test substance

2.1. Product name	<b>Active Anolyte</b>
2.2 Batch	lot no AA44286-01
2.3 Manufacturing date	unknown
2.4 Manufacturer	Elements of Water GmbH
2.5 Date of sample entry	April 09, 2021
2.6 Expiry date	October 2021
2.6 Active substance(s)	Active chlorine released from hypochlorous acid
2.7 Storage conditions in the laboratory	room temperature
2.8 Appearance	clear, colourless liquid
2.9 Physical parameters	(before/after test)
2.9.1 Active chlorine:	500 ppm / 440 ppm
2.9.2 pH:	6.98 / 4.87
2.9.3 Redox potential:	924 mV / 1070 mV

## 3. Test method and neutralization

### 3.1 Suspension test according to the principles of DIN EN 13624:

Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of fungicidal or yeasticidal activity in the medical area – Test method and requirements (phase 2, step 1); German version EN 13624:2013

Scope of application: Efficacy testing of disinfectants in chemical products including industrial, domestic and institutional areas, food, veterinary medicine and hospital hygiene (with the exception: no testing and statements of conformity of medical devices)

Test parameters have been adjusted to the requirements of VAH 9 and 14.1 (Surface disinfection without mechanical action – simulated-use test in: Requirements and methods for the VAH certification of chemical disinfection processes (2015-04)), as follows:

Three contact times at 80% have been applied instead of 3 concentrations per contact time as prescribed in DIN EN 13624.

### 3.2 Neutralization by: dilution-neutralization

Neutralizer solution based on:

3% Tween 80, 0.3% Lecithin, 0.1% Histidin, 0.5% Sodium thiosulphate

## 4. Experimental conditions

4.1	Date of test:	June 28 – July 05, 2020
4.2	Diluent:	distilled water
4.3	Test concentrations:	80%
4.4	Appearance in the test:	colourless liquid, without precipitation
4.5	Test organisms:	<i>Candida albicans</i> DSM 1386 (=ATCC 10231)
4.6	Contact time(s):	30 sec – 60 sec – 5 min
4.7	Test temperature:	20° C
4.8	Interfering substance:	0.3g/l BSA
4.9	Incubation temperature:	30° C

## 5. Results

An overview of the achieved reduction factors is given in the table below. Detailed test results are illustrated in the appendix.

The non-interference of the chosen experimental conditions, the absence of toxicity of the selected neutralizer solution as well as the successful validation of the dilution –neutralization method was proven.

Thus, the results can be regarded as sufficiently valid.

DIN EN 13624	Active Anolyte 20°C / low soil (0.3g/l BSA)			
	Test organism ▼	Reduction factors (RF)		
Time ► Conc. ▼		30 sec	60 sec	5 min
<i>Candida albicans</i> DSM 1386 (=ATCC 10231)	80%	>4.35	>4.35	>4.35

## 6. Conclusion

In the standard EN 13624 the minimum requirements for efficacy for a disinfectant are defined as the capability to reduce the viable counts of the test organisms by a factor of  $>4lg$  within the defined contact time at the relevant test temperature under the influence of the chosen level of interfering substances. The same level of efficacy is required by VAH 9 and 14.1 for products intended for surface disinfection without mechanical action.

For the product **Active Anolyte** a **sufficiently yeasticidal efficacy** against the prescribed test organism could be achieved at 20° and simulated low soil conditions within 30 sec at undiluted (=80%) product concentration.

Duesseldorf, September 29, 2021



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Sampling was performed by the customer (if not described otherwise). All results refer only to the samples provided by the customer. A copy of the original signed version of this report and the raw data are filed at Corporate Scientific Services / Microbiology for a storage period of 10 years. The report may only be distributed in complete form without any changes.

**Appendix: Detailed test results**

**Appendix: Test results, validation and controls – yeasticidal efficacy EN 13624**

Test organism	Validation and controls				Soil: low (0.03% BSA)	Active Analyte		
	Validation suspension Nv (N <sub>v</sub> ) (5.4.1.5)	Validation of the selected experimental conditions A (5.5.2.3)	Verification of the absence of toxicity of the neutralizer B (5.5.2.4)	Validation of the dilution-neutralization method C (5.5.2.5)			Product tests (5.5.2.2): test conditions : concentration [%] and contact time [sec]	
<i>Candida albicans</i> DSM 1386 (=ATCC 10231)	Vc: 141/129 Nv <sub>0</sub> : 1.35x10 <sup>2</sup> [x]yes [ ]no	5 min Vc: 109/ 98 A: 1.04x10 <sup>2</sup> [x]yes [ ]no	Vc: 124/144 B: 1.34x10 <sup>2</sup> [x]yes [ ]no	30 sec / 80%: Vc: 89/107 C: 9.80x10 <sup>1</sup> 60 sec / 80%: Vc: 95/104 C: 9.95x10 <sup>1</sup> 5 min / 80%: Vc: 114/ 97 C: 1.06x10 <sup>2</sup> [x]yes [ ]no	Vc0: Vc-1 Vc-2: Na: Ig Na R:	30 sec	60 sec	5 min
						80% sec	80% sec	80% sec
						10 <sup>-5</sup> :>330/>330		
						10 <sup>-6</sup> : 30/ 33		
						N: 3.15x10 <sup>7</sup>		
						lg N: 7.50		
						lg N <sub>0</sub> : 6.50		
						[x]yes [ ]no		
						<1.4x10 <sup>2</sup>	<2.15	<2.15
						<2.15	<2.15	<2.15
						>4.35	>4.35	>4.35

**Legend:**  
 Vc: Colonies counted  
 Na: Cell counts in the test assays (after the test)  
 N: Cell counts in the test suspension  
 N<sub>0</sub>: Cell counts in the test assays (before the test)  
 Nv: Cell counts in the validation suspension  
 Nv<sub>0</sub>: Cell counts in the validation test  
 A: Cell counts in the validation suspension B  
 B: Cell counts in the experimental conditions control  
 C: Cell counts in the neutralizer control (absence of toxicity)  
 R: Reduction factor

**Criteria of validity:**  
 Lg N: 7.17 – 7.70  
 lg N<sub>0</sub>: 6.17 – 6.70  
 N<sub>v0</sub>: 30 – 160  
 Nv<sub>0</sub>: 3,0 x 10<sup>4</sup> – 1.6 x 10<sup>5</sup>  
 A, C: each ≥ 0.5 N<sub>v0</sub>  
 B: ≥ 0.0005 Nv<sub>0</sub>