Association of Applied Hygiene (VAH)
Disinfectants Commission

Testing disinfectants in accordance with the *VAH Methods and Requirements* for VAH certification and listing or testing in accordance with the European standards – what is the difference?[1]

As of 17 August 2022

The Disinfectants Commission of the German Association of Applied Hygiene (VAH), in collaboration with members of the German Association for the Control of Viral Diseases (DVV) and the German Virology Society (GfV), is currently revising the requirements and methods for VAH certification. The activity spectrums and listing requirements for the virucidal efficacy have already been revised and published in 2021 [1].

Since 2015 – the year in which the last comprehensive revision of the VAH Requirements and Methods was published [2] – at both national and international level new methods have been added and also expressed in more specific terms. These include a number of notifications, published by the VAH. All changes and supplements to the *VAH Methods and Requirements* since 2015 as well as new developments and current EN standards are taken into account in the revision. The *Methods and Requirements* are available on the VAH website as a living guideline, with the respective revision status [1]. Likewise, a brief guide and frequently asked questions (FAQ) on certification and listing can be accessed on the VAH website [3].

Tables 1 and 2 present the *VAH Methods* and *DVV or DVV/ RKI Guidelines* in the left column and the EN standards **whose test methodology is equivalent** in the right column. This means that efficacy testing of disinfectants carried out in accordance with these EN standards is accepted for VAH certification and may be commissioned by the disinfectant manufacturers.

However, the VAH has in some cases more stringent requirements for certification as regards the scope of disinfectant efficacy testing compared with the EN standards. The tighter requirements include, for example, reproducibility tests, in some cases a broader spectrum of test organisms, a greater number of test contact times and concentrations as well as more and higher dilutions of the test neutralisation mixtures to detect the test organisms. **In no instance are the VAH Methods' requirements lower than those of the EN standards.** This ensures that disinfectants deemed effective according to the *VAH Methods* will always also prove successful in efficacy tests performed as per the European standards. The inverse is not necessarily true.

The VAH has the test method and the test results for each individual product evaluated by manufacturer-independent experts. This ensures that the product meets the existing VAH requirements for an effective disinfectant. For evaluation in accordance with the VAH provisions, at least **two independent test reports from accredited laboratories with the associated expert opinions are needed in all cases**. A single test report, as required when applying for marketing authorisation for a biocidal product, is not sufficient for VAH certification of a product.

[1] This notification replaces notification: Equivalence between disinfectant testing according to *VAH methods* and testing according to current European standards. HygMed 2016;41(3)83-84/https://vah-online.de/files/download/2016_Equivalence_VAH_EN.pdf

Table 1: Overview of the *VAH Methods* and presentation of the European standards that can be used as an alternative to the *VAH Methods* for efficacy testing to apply for VAH certification and listing (the italicized numbers in brackets refer to the chapter number of the corresponding VAH method [3]).

Application area and abbreviated title of the VAH Methods (*Methods Book Chapter No.*)	**Abbreviated title of the European standards (CEN TC 216/WG1*), currently valid versions**
Quantitative suspension test with bacteria *(9)* (handwash, skin antiseptics, hand, surface, instrument and textile disinfectants)	EN 13727 (phase 2, step 1) - Quantitative suspension test: Bactericidal activity
Quantitative suspension test with yeasts and moulds *(9)* (handwash, skin antiseptics, hand, surface, instrument and textile disinfectants)	EN 13624 (phase 2, step 1) - Quantitative suspension test: Yeasticidal or fungicidal activity
Quantitative suspension test with mycobacteria *(9)* (hand, surface, instrument and textile disinfectants)	EN 14348 (phase 2, step 1) - Quantitative suspension test: Mycobactericidal activity (including instrument disinfectants)
Hygienic handwash *(10),* simulated-use tests	DIN EN 1499 (phase 2, step 2) - Hygienic handwash
Hygienic hand disinfection *(11),* simulated-use tests	EN 1500 (phase 2, step 2) - Hygienic hand disinfection
Surgical hand disinfection *(12),* simulated-use tests	EN 12791 (phase 2, step 2) - Surgical hand disinfection
Surface disinfection without mechanical action - **Simulated-use with bacteria, yeasts, moulds, mycobacteria *(14.1)***	EN 17387 (WG 1)* (phase 2, step 2) EN 13697 (WG 3) (phase 2, step 2)*[1]/ EN 14349 (WG 2) (phase 2, step 2)*[1]/ EN 16438 (WG 2) (phase 2, step 2)*[1] - Bactericidal, yeasticidal, fungicidal activity of surface disinfectants for use without mechanical action (without wiping)
Surface disinfection with mechanical action - **Simulated-use 4-field test with bacteria, yeasts, moulds, mycobacteria *(14.2)***	EN 16615 (phase 2, step 2) - Bactericidal and yeasticidal activity of surface disinfectants for use with mechanical action (i.e. with wiping) - *For the fungicidal activity and mycobactericidal activity, the standardisation procedure is still in progress*
Chemical and chemothermal instrument disinfection - **Simulated-use quantitative carrier test with bacteria *(15)***	EN 14561 (phase 2, step 2) - Quantitative carrier test: Bactericidal activity of instrument disinfectants
Chemical and chemothermal instrument disinfection - **Simulated-use quantitative carrier test with yeasts and moulds *(15)***	EN 14562 (phase 2, step 2) - Quantitative carrier test: Fungicidal and yeasticidal activity of instrument disinfectants
Chemical and chemothermal instrument disinfection - **Simulated-use quantitative carrier test with mycobacteria *(15)***	EN 14563 (phase 2, step 2) - Quantitative carrier test: Tuberculocidal and mycobactericidal activity of instrument disinfectants
Chemothermal textile disinfection - **Simulated-use quantitative carrier test with bacteria, yeasts, moulds, mycobacteria *(17.1 and 17.2)***	EN 16616 (phase 2, step 2) - Chemothermal textile disinfection: Bactericidal, levoricidal, fungicidal and mycobactericidal activity
Determination of sporicidal efficacy (surface, instrument, textile disinfection) - ***Clostridium difficile* spores – quantitative suspension test *(18)***	EN 17126 (phase 2, step 1) - Quantitative suspension test: Sporicidal activity
Determination der sporicidal efficacy - **Simulated-use 4-field test – *C. difficile* spores *(19)***	*prEN 17846:2022-06 (preliminary standard, draft put to vote),* (phase 2, step 2) - Sporicidal activity of surface disinfectants for use with mechanical action (with wiping)

* Working groups of CEN Technical Committee 216 for testing disinfection processes and antiseptics: WG 1 = Human medical area (medicine), WG 2 = Veterinary area (veterinary medicine, animal husbandry), WG 3 = Food hygiene and domestic and institutional use

[1] For these EN standards, in order to demonstrate equivalence with the VAH methods, tests must be adapted to WG1 conditions. This applies in particular to the organic challenge as well as to the required microbial reduction rates.

Table 2: Overview of the DVV and DVV/RKI guidelines and of the European standards used for efficacy testing to apply for VAH certification and listing. All European standards used for testing the virucidal efficacy are based on the drafts of the DVV/DfV Virus Disinfection Commission. In addition to the quantitative suspension tests (phase 2, step 1), testing with simulated-use tests (phase 2, step 2) featured in the guidelines and standards listed here is also a prerequisite for VAH listing in the case of viruses.

Application area and abbreviated title of the DVV and DVV/RKI guidelines	**Abbreviated title of the European standards (CEN TC 216/WG1*), currently valid versions**
Quantitative suspension test with viruses (hand, surface, instrument and textile disinfectants) - DVV/RKI guideline on efficacy of disinfectants against viruses (2015) [4]	EN 14476 (phase 2, step 1) - Quantitative suspension test: Virucidal activity
Hygienic hand disinfection, simulated-use tests	*prEN 17430:2022-09* (preliminary standard, draft put to vote), (phase 2, step 2) - Virucidal hygienic hand disinfection – Test procedures and requirements
Surface disinfection without mechanical action, simulated-use tests - Simulated-use, quantitative carrier test with viruses, non-porous surfaces, DVV guideline 2012 [5]	EN 16777 (phase 2, step 2) - Quantitative carrier test: Virucidal activity of surface disinfectants for use without mechanical action on non-porous surfaces (without wiping)
Surface disinfection with mechanical action, simulated-use tests	*WI in progress (phase 2, step 2)* - Quantitative carrier test: Virucidal activity of surface disinfectants for use with mechanical action (with wiping)
Chemical and chermothermal instrument disinfection, simulated-use tests	EN 17111 (phase 2, step 2) - Quantitative carrier test: Virucidal activity of instrument disinfectants
Chemothermal textile disinfection, simulated-use tests	*No DIN/EN standard (phase 2, step 2) available*

All activity spectrums of a product must be tested separately and confirmed so that they can be documented as such in the *VAH List.* Therefore, a disinfectant awarded a VAH certificate exclusively for bactericidal and levoricidal activity does not necessarily have the same reliable, VAH-confirmed efficacy for other activity spectrums, such as for the limited virucidal activity, even if a test report claiming this, e.g. based on the EN methods, is presented by the manufacturer.

Approved simulated-use tests (phase 2, step 2) have been available hitherto to test the virucidal efficacy on a surface without mechanical action (without wiping) as well as for instrument disinfection. A preliminary standard is available for hand disinfection, while a standard is being currently drawn up for surface disinfection with mechanical action (see Table 2). The development of these simulated-use methods and European standards (phase 2, step 2) is based in many areas on the work undertaken by the DVV/GfV Virus Disinfection Commission; in the past it had to that effect initiated, among other things, ring trials for the development of standards. For the application methods and areas for which no simulated-use tests have been published so far, the VAH will accept for certification purposes quantitative suspension tests (e.g. for textile disinfection).

A VAH certificate attesting to the virucidal efficacy of a product can only then be issued if the bactericidal and yeasticidal activity have also been certified as minimum requirements.

Proof of efficacy for a disinfectant by reference to an EN method (e.g. “Tested according to EN 17387“ for surface disinfectant sprays) as for example stsated in the IHO List (German Industrial Association for Hygiene and Surface Protection) or on product labels or also by **stating “tested according to VAH Methods”, is not equivalent to, or synonymous with, the VAH certification quality seal for the same application** (see Glossary).

"Tested according to VAH Methods" or "Tested according to EN stanrdards"
is not equivalent to, or synonymous with
"VAH-certified" or "VAH-listed".

An overview of all VAH-certified products can only be found in the list of chemical and chemothermal disinfection processes published by the VAH, which can be accessed free of charge at https://vah-liste.mhp-verlag.de/en/

Glossary

- **VAH-certified** = The disinfectant meets all VAH requirements for an effective product for the specified application area, specified activity spectrum and the specified contact times and concentrations. It has received a VAH certificate as confirmation of this and the manufacturer is allowed to use it to advertise the certified values. *Note:* The VAH certifies and lists products, not formulations.
- **VAH-listed** = The disinfectants has been awarded a valid certificate by the VAH and is featured, with the values shown on the certificate, in the VAH Disinfectants List (online and print).
- **Tested according to a VAH method** = The disinfectant was tested according to the *VAH Methods*; this does not necessarily mean that the VAH requirements for certification and listing have been met or that an independent evaluation of the test reports was carried out.
- **Tested according to an EN method** = The disinfectant was tested according to the EN standards; this does not necessarily mean that an independent evaluation of the test reports was carried out.

References

1. Desinfektionsmittel-Kommission im VAH (Ed.). Anforderungen und Methoden zur VAH-Zertifizierung chemischer Desinfektionsverfahren. 1. September 2022. Access in German https://vah-online.de/de/fuer-laboratorien, English translations https://vah-online.de/en/for-laboratories (Annex to the Requirements for Virucidal Activity, as of 1 November 2021)
2. Desinfektionsmittel-Kommission im VAH (Ed.). Anforderungen und Methoden zur VAH-Zertifizierung chemischer Desinfektionsverfahren. Stand: 2. April 2015; Wiesbaden: mhp Verlag. Mit Ergänzungen Stand 15.6.2019.
3. Desinfektionsmittel-Kommission im VAH (Ed.). A short guide for manufacturers: How does my product get an entry in the VAH List of Disinfectants? Frequently asked questions and answers for VAH-certification and listing. Access in English https://vah-online.de/en/for-manufacturers
4. DVV/RKI. Leitlinie der Deutschen Vereinigung zur Bekämpfung der Viruskrankheiten (DVV) e. V. und des Robert Koch-Instituts (RKI) zur Prüfung von chemischen Desinfektionsmitteln auf Wirksamkeit gegen Viren in der Humanmedizin – Fassung vom 1. Dezember 2014. Bundesgesundheitsbl 2015;58:493–504. Available in English: Rabenau, HF, Schwebke I, Blümel J et al. Guideline for testing chemical disinfectants regarding their virucidal activity within the field of human medicine. Bundesgesundheitsbl 2020; 63:645–655, https://doi.org/10.1007/s00103-020-03115-w
5. DVV. Leitlinie der Deutschen Vereinigung zur Bekämpfung der Viruskrankheiten (DVV) e. V. Quantitative Prüfung der viruziden Wirksamkeit chemischer Desinfektionsmittel auf nicht-porösen Oberflächen (Anwendung im Bereich Humanmedizin). HygMed 2012;37(3):78–85. Available in English: Quantitative test for the evaluation of virucidal activity of chemical disinfectants on non-porous surfaces.

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