

Communication by the VAH Disinfectants Commission

On the selection of surface and instrument disinfection processes

As of 18 February 2025



Background

VAH (German Association for Applied Hygiene) certifies chemical disinfectants for the application areas of hand antisepsis (disinfection), skin antisepsis, instrument disinfection, surface disinfection and textile disinfection. The certified disinfectants are published in the VAH List of Disinfectants (available from <https://www.vah-liste.de/en/>).

When selecting suitable disinfectants for the disinfection of instruments, sometimes questions arise as to which area of application to choose from: “instrument disinfection” or possibly also “surface disinfection”. Contrary to what might be assumed, the terms “instrument disinfection” and “surface disinfection” do not primarily refer to the object to be disinfected (instrument, surface), but above all to the **disinfection application process** and the **standardized test methods** for the intended application process. The terms instrument disinfection and surface disinfection are also used in European standards relating to efficacy testing of the respective procedure.

Differentiation of the processes

In principle, the areas of application reflected in the VAH List (and also used in test standards, product information leaflets and other disinfectant lists) can be differentiated as follows (cf. Table 1):

- Products which are certified and listed for the “**instrument disinfection**” area of application, are used for **manual disinfection by immersion (immersion disinfection)** and thus were tested and found to be effective based on a specific test method suited for this application process.¹ Immersion disinfection means that the instrument or device to be disinfected is fully submerged in disinfectant solution.
- Products which are certified and listed as (hard) **surface disinfectants** are either utilized in a **wipe** disinfection process **or** in a **spray process without subsequent wiping**. Consequently, they were tested and found to be effective based on specific test methods suited for these application processes.

The decisive factor for the selection of the disinfection method is the expert assessment of the instrument/equipment or surface with regard to its potential risk of infection for staff and patients/customers, taking into account the hygienic aspects as well as the specific technical and material properties of the items to be disinfected.

¹ The use of the term “instrument disinfection” has historical reasons. In the past, it was the common disinfection procedure to immerse medical instruments (devices) in a chemical disinfectant solution, therefore the application process of immersion disinfection was equated with instrument disinfection.

For disinfecting medical devices or non-medical devices and instruments the application process of immersion disinfection and/or an application method for surface disinfection with or without mechanical action may be suitable.

Table 1 Application processes and terminology for instrument and for surface disinfection.

Term	Explanation and examples
Instrument disinfection	Disinfection of medical and/or non-medical instruments and equipment for which the manual process of chemical disinfection by immersion (or flushing) is suitable or recommended according to the manufacturer’s instructions. In the immersion or flushing process of instrument lumens, mechanical action (e.g. wiping, brushing) is not part of the test procedure. Examples: <ul style="list-style-type: none"> ▪ Instrument with lumen
Surface disinfection <ul style="list-style-type: none"> ▪ With mechanical action (i.e. with wiping) 	Disinfection of non-porous, hard surfaces for which the manual wipe procedure utilizing a towelette or mop is suitable or recommended. Examples: <ul style="list-style-type: none"> ▪ Near-patient/bedside surfaces: furniture, grab handles ▪ Exterior surfaces of instruments/devices/tools without lumen which cannot be submerged ▪ Floors in high-risk areas
<ul style="list-style-type: none"> ▪ Without mechanical action (i.e. without wiping) 	Disinfection of non-porous, hard surfaces for which the spray process with spray or foam without subsequent wiping is suitable or recommended, if neither the wiping process nor the immersion process are an option. Example: <ul style="list-style-type: none"> ▪ Hard-to-access sites on TEE probes (rear side of the control panel)

Regulatory classification of instrument and surface disinfectants (in Europe)

Independent of the process, the intended purpose and thus the regulatory classification of the disinfectant product must be observed. With regard to the operator's responsibility for selecting the disinfectant, the use of a disinfectant declared as a medical device or a so-called dual-use product (labelled as a medical device and as a biocidal product) is required for the disinfection of a medical device (product with a medical purpose as defined by the Medical Device Regulation (MDR)). A medical device can be recognized by the CE mark, to which a four-digit identification number is added for products outside Class I. In the online platform of the VAH List of Disinfectants, manufacturers are also given the opportunity to provide corresponding information in the detailed information section on the product under ‘regulatory status’.

The manufacturers of the medical device to be disinfected are obliged to provide information on the reprocessing procedure and thus also on suitable cleaning and disinfection processes. If this information is missing, it should be requested from the manufacturer.

Biocidal products or dual-use products are used to disinfect instruments and equipment which are not covered by medical device legislation, such as scissors in the hairdressing trade.

Both, instrument and surface disinfectants, can fall under the following product categories:

- Biocidal product (PT2),
- medical device,
- both product categories ('dual use').

Conclusion

- The terms instrument disinfection and surface disinfection refer to the application process of the product and the standardized, simulated-use test methods developed for these processes.
- Instrument disinfectants are used for the manual immersion process or, if suitable, for the flushing of instruments (e.g. medical devices, tools, equipment) as well as instrument accessories and are specially tested for these types of application processes.
- Surface disinfectants can be used for disinfection of hard, non-porous surfaces by means of wiping and without wiping and are tested specially for the respective type of application process.
- For the manual chemical disinfection of instruments, the manufacturer of the instrument (medical device, tool, equipment) to be disinfected may recommend processes applying instrument disinfectants, but also processes applying surface disinfectants.
- In view of the operator's responsibility for selecting the disinfectant, the use of a disinfectant declared as a medical device or a so-called dual-use product (labelled as a medical device and as a biocidal product) is required for the disinfection of a medical device.

Acknowledgement

We would like to thank Dr Christian Jäkel, lawyer and physician, specialist lawyer for medical device law, Lübben, Germany, for his advice on the regulatory classification of instrument and surface disinfectants.

This is a VAH-authorized translation of the original article (in German)

- Desinfektionsmittel-Kommission im VAH. Zur Auswahl von Verfahren zur Flächen- und zur Instrumentendesinfektion. Stand: 18.02.2025. HygMed 2025;50(3):31-32. Accessed 17 April 2025: https://vah-online.de/files/download/vah-mitteilungen/VAH_DMK_Instrumentendesinfektionsmittel%20FI%C3%A4chendesinfektionsmittel_HM_3_25.pdf

Contact

Verbund für Angewandte Hygiene (VAH) e.V.
c/o Institut für Hygiene und Öffentliche Gesundheit
des Universitätsklinikums Bonn
Venusberg-Campus 1
53127 Bonn
Germany
E-mail: info@vah-online.de, Homepage: www.vah-online.de
Phone: 0049 228-287 1 4022
Fax: 0049 228 287 1 9522

<p><i>Members of the VAH Disinfectants Commission</i></p> <p>Dr. B. Christiansen (stellvertretende Vorsitzende) Dr. M. Decius Priv.-Doz. Dr. M. Eggers Prof. em. Dr. M. Exner (Vorsitzender) Dr. J. Gebel (Schriftführer) Prof. Dr. S. Gleich Dr. B. Hornei Dr. B. Hunsinger Prof. Dr. J. Knobloch Prof. Dr. A. Kramer Prof. Dr. H. Martiny Priv.-Doz. Dr. F. Pitten Priv.-Doz. Dr. K. Schröppel Dr. I. Schwebke Dr. J. Steinmann Assoc.-Prof. Priv.-Doz. Dr. M. Suchomel Dr. J. Tatzel Prof. Dr. L. Vossebein Prof. Dr. M. H. Wolff</p>	<p><i>Permanent Guests in the Disinfectants Commission</i></p> <p>P. Ahl, Fachapothekerin für Klinische Pharmazie (Gast für ABDA) Priv.-Doz. Dr. Ch. Brandt (Gast für DGHM) Dr. A. Friese (Gast für BAuA) Dr. F. Helm (Gast für Bundeswehr) S. Holitschke (Gast für VHD) Prof. Dr. N. Hübner Dr. A. Jacobshagen (Gast für BfArM) K. Konrat, M.Sc. (Gast für RKI) Dr. A. Marcic (Gast für BVÖGD) Dr. M. Rausch (VAH-Referenzlabor, Bonn) K.-M. Roesch M.Sc. (VAH-Referenzlabor, Bonn) Prof. Dr. U. Rösler (Gast für DVG) M. Sonders (Gast für VHD) Dr. S. Walch (Gast für CVUA) Dr. V. Weinheimer (Gast für BAuA)</p>
--	--