INSTRUCTIONS FOR EXPERTS
Disinfectant testing according to DVG test guidelines for efficacy testing of disinfectants

As at 07 February 2019

Experts and directory of experts

Experts are added to the DVG list of experts on application. Applications are accepted or rejected by the DVG Committee for Disinfection [Ausschuss Desinfektion].

Specialists who have proven experience in disinfectant testing and the necessary technical equipment and are listed in the expert list of the DVG Committee for Disinfection are authorised to work as experts.

Participation in the QA measures offered by the DVG (e.g. paying inter-laboratory comparisons and ring trials) is mandatory for experts. Failure to participate or unsuccessful participation in the QA measures offered can, following case-by-case decisions by the Committee for Disinfection, lead to the removal of an expert from the list of experts.

(Internationally) accredited experts can issue expert opinions if the carrier tests in accordance with current DVG test guidelines, which are to be conducted for listing, meet the relevant EN testing standards (step 2/phase 2 carrier tests). This is, for example, currently (as at February 2018) the case for bactericidal activity testing in animal farming and for bactericidal, yeasticidal and fungicidal activity testing in the food sector.

All listing recommendations and test results from the first expert shall be examined in detail by members of the Committee for Disinfection (preliminary assessors) to check that they correspond to the methods detailed in the Guidelines and that the results are plausible. The preliminary assessors draw up a listing proposal for the DVG list in question. On the basis of this proposal, the Committee then sets the parameters for the mandatory test of selected parameters that must always be conducted before listing.

These tests of parameters defined by the DVG Committee for Disinfection can in general only be conducted by experts listed in the DVG expert directory.

Experts who sit on the Committee cannot vote on listing values for any preparations that they have tested.
The following binding requirements apply to expert opinions to be submitted to the DVG Committee for Disinfection.

1  **Formal requirements for expert opinions**

The expert opinion must clearly be from the expert in person. It must be drawn up by the expert himself or herself, and the tests must have been conducted in his or her own laboratory. Experts draw up an expert opinion for filing with the DVG Committee for Disinfection.

Expert opinions are to be submitted in German or in English.

**Important:** Expert opinions or test reports from accredited experts drawn up on the basis of the EN testing standards corresponding to current DVG test guidelines must also be evaluated in a summarizing opinion (in the case of data collected by third parties) or, in the case of data collected by the expert, an comprehensive expert opinion and accompanied by a listing recommendation. The other provisions of these Instructions for Experts must also be followed.

Only one expert opinion may be submitted per evaluated product and test field (for example bactericidal activity) from any one laboratory. All branches run by the same owner or family members count as one laboratory even if they are operated under different names. The test of selected parameters must be conducted by another expert (another test laboratory) from the DVG expert list who/that is personally and commercially independent of the first.

The experts and test laboratories must not be directly connected to, part of the same ownership structure as or in an employment relationship with the client. An employment relationship is also deemed to exist if a test laboratory conducts a specific type of test for one specific client only. Experts must not hold any patent rights relating to the product to be tested.

The expert opinion must be dated and bear the original signature of the expert.

1.1  **Cover page**

The Committee shall only accept expert opinions with a cover page that corresponds to that set out in Appendix 4.1. Consecutive page numbering is mandatory. The number of pages of the expert opinion must be clearly indicated on the cover page. The cover page must be bound with the rest of the expert opinion.

1.2  **General notes on drafting expert opinions**

Results must be presented in tables.

The listing proposals in the expert opinion are to be made in a table at the end of the opinion, as set out in Appendix 4.2, broken down into columns.
When the listing application is submitted, the detailed results of the individual experiments for each individual test are to be included with the expert opinion in the form of a test report, if applicable broken down by test areas.

1.2.1 Expert findings

The expert has an obligation to test in accordance with the DVG test guidelines as last amended; any necessary methodological or formal deviations are to be justified and documented in detail in the expert opinion. The version of the test guidelines used (date on the homepage of the DVG Committee for Disinfection) is to be specified in the expert opinion.

Expert opinions must contain the following information on the identity of the product or the sample tested:

- colour, opacity, viscosity, smell, consistency (liquid, solid, powder)
- solubility behaviour in or miscibility with water if applicable
- pH values of dilutions in the tested concentration range and in the concentrate, if measurable
- pH value of WSH (water of standardised hardness according to test guidelines)

The expert is also to provide information on the type and quantity (manufacturer information) of the active components of the disinfectant tested. This information must always correspond to the information provided by the manufacturers for product identification.

**Important:** For preparations based on chlorine-releasing agents (active chlorine), the content of the active substance is to be determined immediately before and immediately after the test period. The active substance content determined over the test period is to be documented in the expert opinion together with the storage conditions in the expert's laboratory.

1.2.2 Findings from other experts

Proof of EN conformity can also be provided independently of the expert opinions submitted that are drafted in accordance with the DVG guidelines by also submitting an independent expert opinion from an accredited laboratory in Germany or abroad.

The expert must, for its own tests, make sure that the information on product identity, the conduct of the tests and the presentation of the results complies with the valid EN standards. The expert must verify that the test objective has been achieved (required log reduction) and that the experiments are valid (initial test organism counts and necessary controls).

The expert has a duty critically to examine the conduct and results of the EN conformity assessment, in particular as regards the choice and effect of the neutraliser used and
the disinfectant concentrations tested. In case of doubt, the results are to be verified in spot tests.

A summary of the results is to be presented in the DVG expert opinion.

The findings of the expert opinions submitted are also used to select the limiting test organism for listing experiments. If the limiting test organism cannot be clearly determined, those two or three test organisms that demonstrate the greatest resistance to the product are to be used for the subsequent experiments for listing.

2 Notes on the conduct and documentation of tests

2.1 Bactericidal, fungicidal and yeasticidal activity

The standard procedure for determining the microbial count in the carrier tests for listing is surface testing (spread plate technique). In the case of expert opinions that are based on EN test standards and issued by accredited experts who are not listed in the DVG list of experts, expert opinions in which the microbial count has been determined using the pour plate or membrane filtration method may in individual cases also be accepted.

However, the use of a spiral plater to determine microbial counts is not admissible under any circumstances.

The controls and validations set out in the test guidelines and EN test standards are to be implemented for every single experiment and documented in the test report in accordance with requirements.

The reference substances (see here) must, in accordance with the requirements of the DVG test guidelines, be used in two separate and independent experiments for each individual main active substance. If there are multiple main active substances or if there is otherwise any uncertainty on this point, the Committee should if applicable be contacted before the start of tests. For a transitional period, concentrations are in some cases yet to be specified for the individual reference substances. In these cases, tests with those reference substances should cover a broader range to allow the change from inefficacy to efficacy to be documented.

For disinfectants whose expected efficacy is at a concentration of under 1%, each of all the following concentrations must be tested, without exceptions, until an effective concentration can be proven: 0.1%, 0.25%, 0.5% and 0.75% and 1%. For disinfectants to be tested in concentrations of over 1%, the following levels must be tested: 1.5%, 2%, 2.5%, 3%, 3.5%, 4%, 4.5%, 5%, 6%, 7%, 8%, 9%, 10%. For higher concentrations, testing is at increments of 5%. This does not apply to preparations that are used undiluted. The following levels are to be used to demonstrate the change from inefficacy to efficacy: 50%, 60%, 80%, 100% (and if applicable lower concentrations in 10%-increments).

For the individual contact times tested, the transition from ineffective concentrations to effective concentrations must in all cases be shown by testing at least three
2.1.1 Evaluation of Minimum Inhibitory Concentration (MIC)

For all DVG listings for bactericidal, yeasticidal and fungicidal activity, MIC testing must cover the following test organisms at least according to DVG test guidelines:

- *Enterococcus hirae*
- *Staphylococcus aureus*
- *Pseudomonas aeruginosa*
- *Proteus vulgaris* (animal husbandry; veterinary medicine) / *Escherichia coli* (food sector)
- *Candida albicans*

According to DVG test guidelines, the MIC and a suitable neutraliser in the suspension test are to be determined and documented in two completely separate experiments, generally on different days. If the experiments are conducted on the same day, different microbial suspensions and different, fresh disinfectant suspensions must be used.

The MIC is in principle determined by mixing a double-concentrated disinfectant solution with a double-concentrated liquid culture medium specific to the test organism and suitable for the growth of the test organism.

**Important:** Please note that for disinfectants based on active chlorine, the suspension test for determining the MIC is instead conducted using a single-concentrated liquid culture medium in derogation from the above. However, the validation of the neutraliser is in this case too also conducted with a double-concentrated liquid culture medium.

The polyvalent neutraliser combinations specified in the Guidelines and any other neutraliser combinations applicable are also to be tested.

The set polyvalent neutraliser combination I is generally used for disinfectants that do not contain any oxidising active substances. For chlorine-releasing and oxygen-releasing agents, the set polyvalent neutraliser combination II is used. For disinfectants that have a highly acidic or highly alkaline pH, buffering in the subculture medium is additionally required (for example with 0.1 mol/l Na₂HPO₄ for acidic or 0.1 mol/l NaH₂PO₄ for alkaline products).

Evaluation of MIC should be visual. Subcultures are only prepared from test tubes in which there has clearly been microbial growth; subcultures are purely for the purposes of identifying the microbes that have grown. Should the application solutions of a product display considerable clouding that makes a visual assessment extremely difficult or indeed impossible, this is to be documented. The MIC is nonetheless to be determined in these cases (if necessary using semiquantitative streaking) but not to
be included as a potential limiting factor in the listing recommendation; grounds for this exclusion are to be provided.

The optimal neutraliser as identified in the experiments is to be used in subsequent testing.

Documentation of the results of the experiments is to cover the following points:

- Initial microbial counts in the test suspensions
- MIC without neutraliser
- MIC with neutraliser
- MIC of reference substance without neutraliser

2.1.2 Suspension tests

According to the guidelines, the semiquantitative suspension tests are to be conducted in two completely separate experiments and documented. If a test according to EN phase 2/step 1 test standards is conducted instead of the semiquantitative suspension test to measure inactivation kinetics, at least three time/concentration combinations in the relevant range for listing (5 min, 30 min, 60 min and 120 min) are to be tested in two separate experiments with the limiting test organism.

Where provided for in the test guidelines, subsequent inhibition must be tested and the result documented accordingly in the expert opinion.

The results in the expert opinion must be presented in tables.

Documentation of the semiquantitative tests is to cover the following points:

- Initial microbial counts in the test suspensions
- Initial microbial counts in the validation suspension (for checking for subsequent inhibition)
- Result of the test for subsequent inhibition
- Presentation of the test results for growth (+) or no growth (-)

The results must show the transition from efficacy to inefficacy.

For quantitative suspension tests according to EN phase 2/step 1 test standards, documentation must comply with the provisions of the test standard, including all controls and validations.

2.1.3 Carrier tests

According to the guidelines, the carrier tests for listing are to be conducted in at least two completely separate experiments and documented. The test organism that requires the highest concentration for a 4 log reduction within a 60 min contact time in the relevant surface tests (e.g. EN 14349, EN 16437 or EN 13697) is the limiting test
organism that is then used for the subsequent carrier tests (generally the independent replicates and/or tests with other contact times). If the limiting test organism cannot be clearly determined, the two test organisms available are to be used for the subsequent carrier tests.

A listing recommendation can only be given if:

- at least two independent tests have demonstrated the required log reduction for the recommended application concentration
- the transition from inefficacy to efficacy range has been demonstrated
- the concentration steps specified in the test guidelines have been complied with

Two separate experiments to confirm the effective concentration means conducting two completely separate and independent experiments with all the prescribed controls (including reference substances for two experiments), generally on different days. If the experiments are conducted on the same day, different microbial suspensions and different, fresh disinfectant suspensions must be used. In all carrier tests conducted, the minimum reduction for the area of application as specified in the tables of requirements (see here) must be achieved for the efficacy of the product tested to be confirmed.

**Important:** The carriers used for the individual tests may only be used once. Stainless steel carriers must be defatted and sterilised with particular care as these processes can have a significant effect on the test results.

The test organism suspension is applied in drops to the centre of the carrier (stainless steel or poplar wood), **not spread** and allowed to dry on to the carrier for ≤ 60 min. The test organism suspension is to be inspected (visually) at regular intervals to check the progress of drying. Gram-negative test organisms are often liable to dry out, so particular care should be taken with these organisms to ensure that they are not allowed to dry beyond the required point.

When applying disinfectant to the stainless steel carrier, be sure to cover the dried on test organism suspension completely and make sure that the disinfectant does not run over the edge of the carrier. This is most likely to happen with products that contain a high proportion of surface-active substances. Carriers on which this happens must not be included in the analysis.

The carriers used are shaken and rinsed and then checked for test organism growth by placing them on a CSA plate. The main purpose of this evaluation is to assess the efficacy of the bioburden recovery procedure; this evaluation is not directly included in the test results.

Alongside the specifications set out in the applicable test standard including all controls and validations, documentation of the individual carrier tests must cover the following points:

- Drying procedure and drying time
• Procedure for microbial quantification (generally surface method/spread plate technique or, for accredited experts who are not on the DVG list of experts, potentially also the pour plate method, see 2.1)

2.2 Mycobactericidal activity

The details under 2.1 apply accordingly to tests for mycobactericidal activity.

2.3 Sporicidal activity

Currently no set specifications

2.4 Virucidal activity

The details under 2.1.2 and 2.1.3 apply as appropriate to tests for virucidal activity. However, neutraliser is not used as the carriers are placed on ice after incubation and recovered in a large quantity of ice-cooled medium. The use of reference substances is not yet required either by the current test guidelines. However, how the carrier suspension was detoxified is to be documented; proof is also to be provided for the selected detoxification measure (including but not limited to gel filtration, for example with Sephadex® or MicroSpin® columns, or ultrafiltration with Millipore® membranes) that the techniques used do not have a negative effect on the infectivity of the test virus suspensions.

Alongside the specifications set out in the DVG test standard, documentation of the individual suspension and carrier tests must cover the following points:

- Drying procedure and drying time (only for carrier tests)
- Procedures for microbial quantification
- Initial virus titre
- All controls and validations

2.5 Antiparasitic effect

The details under 2.1.2 and 2.1.3 also apply as appropriate to tests for antiparasitic effect.

Alongside the specifications set out in the DVG test standard, documentation of the individual suspension and carrier tests must cover the following points:

- Drying procedure and drying time (only for carrier tests)
- Source (institute/slaughterhouse; date) of the oocysts or ascarids
- Number of *Ascaris* eggs in the test suspension or the oocyst concentration (*C. parvum*) in the test
- All controls and validations in accordance with the test guidelines

2.6 **Efficacy testing for disinfection procedures**

Efficacy tests for disinfection procedures may only be conducted by the experts listed in the list of DVG-accredited experts who are accredited for this work.

The parameters for testing a given disinfection procedure (sampling points, quantities to be applied, contact times, etc.) are set by the Committee for each procedure individually before tests are conducted.

The applicant and the DVG expert who has been asked to carry out the tests must therefore contact the Committee before tests commence.

Efficacy testing for disinfection procedures that is conducted without prior consultation with the Committee cannot be accepted for DVG listing under any circumstances.

3 **Drafting a listing recommendation**

The expert issues a listing recommendation on the basis of the test results. Key to listing recommendations are the results of the carrier tests; the concentrations must not be lower than the concentrations required for efficacy for the given contact time as established in the suspension tests. For bactericidal, yeasticidal and fungicidal activity, the listing recommendation must also ensure at least the MIC for all mandatory test organisms (see 2.1.1).

**Important:** Listing recommendations below the MIC will **not be accepted**.

Concentrations of less than 0.1% will **not be entered in the list**. Other concentrations will be listed as determined in disinfectant testing with the specified series of concentrations.

The table in Appendix 4.2 is to be used for listing recommendations by the expert.

3.1 **Food sector**

3.1.1 **Bactericidal activity**

Area with low soiling

Column 5a **Areas A and C:**

Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least
4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within a contact time of 5 min.

**Area B:**

Concentration (%) at which, in at least two separate carrier experiments with low soiling of 1% reconstituted skimmed milk, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within a contact time of 5 min.

**Column 5b Areas A and C:**

Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within a contact time of 30 min.

**Area B:**

Concentration (%) at which, in at least two separate carrier experiments with low soiling of 1% reconstituted skimmed milk, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within a contact time of 30 min.

**Area with high soiling**

**Column 9a Area A:**

Concentration (%) at which, in at least two separate carrier experiments with high soiling of 5.0 g/l BSA and 5.0 g/l YE, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within a contact time of 5 min.

**Column 9b Area A:**

Concentration (%) at which, in at least two separate carrier experiments with high soiling of 5.0 g/l BSA and 5.0 g/l YE, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within a contact time of 30 min.
3.1.2 Yeasticidal activity

Area with low soiling

Column 6a

Area A:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 4 lg in the CFU of *Candida albicans* was achieved at the set test temperature and within a contact time of 5 min.

Area B:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 1% reconstituted skimmed milk, a reduction of at least 4 lg in the CFU of *Candida albicans* was achieved at the set test temperature and within a contact time of 5 min.

Area C:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 3 lg in the CFU of *Candida albicans* was achieved at the set test temperature and within a contact time of 5 min.

Column 6b

Area A:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 4 lg in the CFU of *Candida albicans* was achieved at the set test temperature and within a contact time of 30 min.

Area B:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 1% reconstituted skimmed milk, a reduction of at least 4 lg in the CFU of *Candida albicans* was achieved at the set test temperature and within a contact time of 30 min.

Area C:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 3 lg in the CFU of *Candida albicans* was achieved at the set test temperature and within a contact time of 30 min.
Area with high soiling

Column 10a Area A:
Concentration (%) at which, in at least two separate carrier experiments with high soiling of 5.0 g/l BSA and 5.0 g/l YE, a reduction of at least 4 lg in the CFU of Candida albicans was achieved at the set test temperature and within a contact time of 5 min.

Column 10b Area A:
Concentration (%) at which, in at least two separate carrier experiments with high soiling of 5.0 g/l BSA and 5.0 g/l YE, a reduction of at least 4 lg in the CFU of Candida albicans was achieved at the set test temperature and within a contact time of 30 min.

3.1.3 Fungicidal activity

Area with low soiling

Column 7a Area A:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 3 lg in the CFU of the limiting test organism (generally Aspergillus brasiliensis) was achieved at the set test temperature and within a contact time of 5 min.

Area B:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 1% reconstituted skimmed milk, a reduction of at least 3 lg in the CFU of the limiting test organism (generally Aspergillus brasiliensis) was achieved at the set test temperature and within a contact time of 5 min.

Area C:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 3 lg in the CFU of the limiting test organism (generally Aspergillus brasiliensis) was achieved at the set test temperature and within a contact time of 15 min.

Column 7b Areas A and C:
Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least
3 lg in the CFU of the limiting test organism (generally *Aspergillus brasiliensis*) was achieved at the set test temperature and within a contact time of 30 min.

**Area B:**

Concentration (%) at which, in at least two separate carrier experiments with low soiling of 1% reconstituted skimmed milk, a reduction of at least 3 lg in the CFU of the limiting test organism (generally *Aspergillus brasiliensis*) was achieved at the set test temperature and within a contact time of 30 min.

**Area with high soiling**

**Column 11a Area A:**

Concentration (%) at which, in at least two separate carrier experiments with high soiling of 5.0 g/l BSA and 5.0 g/l YE, a reduction of at least 3 lg in the CFU of the limiting test organism (generally *Aspergillus brasiliensis*) was achieved at the set test temperature and within a contact time of 5 min.

**Column 11b Area A:**

Concentration (%) at which, in at least two separate carrier experiments with high soiling of 5.0 g/l BSA and 5.0 g/l YE, a reduction of at least 3 lg in the CFU of the limiting test organism (generally *Aspergillus brasiliensis*) was achieved at the set test temperature and within a contact time of 30 min.

### 3.1.4 Virucidal activity

**Area with low soiling**

**Column 8a Area C:**

Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 4 lg in the TCID$_{50}$ of *Murinem Norovirus* was achieved at the set test temperature and within a contact time of 5 min.

**Column 8b Area C:**

Concentration (%) at which, in at least two separate carrier experiments with low soiling of 0.3 g/l BSA, a reduction of at least 4 lg in the TCID$_{50}$ of *Murinem Norovirus* was achieved at the set test temperature and within a contact time of 30 min.
3.1.5  **Sporicidal activity**
Currently no set specifications

3.2  **Animal husbandry**

3.2.1  **Bactericidal activity**

Column 4a  Concentration (%) at which, in at least two separate carrier experiments on porous surfaces (wooden carrier) with low soiling of 3 g/l BSA, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within the specific contact times.

Column 4b  Concentration (%) at which, in at least two separate carrier experiments on non-porous surfaces (stainless steel carrier) with high soiling of 10 g/l BSA and 10 g/l YE, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the set test temperature and within the specific contact times.

3.2.2  **Mycobactericidal activity**

Column 5a  Concentration (%) at which, in at least two separate carrier experiments on porous surfaces (wooden carrier) with low soiling of 3 g/l BSA, a reduction of at least 4 lg in the CFU of *M. avium avium* was achieved at the set test temperature and within the specific contact times.

3.2.3  **Sporicidal activity**

Column 5b  Currently no set specifications

3.2.4  **Yeasticidal activity**

Column 6a  Concentration (%) at which, in at least two separate carrier experiments on porous surfaces (wooden carrier) with low soiling of 3 g/l BSA, a reduction of at least 4 lg in the CFU of *C. albicans* was achieved at the set test temperature and within the specific contact times.
3.2.5 Fungicidal activity

Column 6b Concentration (%) at which, in at least two separate carrier experiments on porous surfaces (wooden carrier) with low soiling of 3 g/l BSA, a reduction of at least 3 lg in the CFU of the limiting test organism (generally Aspergillus brasiliensis) was achieved at the set test temperature and within the specific contact times.

3.2.6 Virucidal activity

Column 7a Concentration (%) at which, in at least two separate carrier experiments on porous surfaces (wooden carrier) with protein soiling (40% FCS), a reduction of at least 4 lg in TCID$_{50}$ of the limiting test virus (generally one of the two non-enveloped test viruses) was achieved at the set test temperature and within the specific contact times.

Column 7b Concentration (%) at which, in at least two separate carrier experiments on porous surfaces (wooden carrier) with protein soiling (40% FCS), a reduction of at least 4 lg in TCID$_{50}$ of the limiting enveloped test virus was achieved at the set test temperature and within the specific contact times.

3.2.7 Antiparasitic activity

Column 8a Concentration (%) at which, in at least two separate carrier experiments on porous surfaces (tiles) with no protein soiling, a reduction of at least 95% in the embryonation rate of Ascaris suum was achieved at the set test temperature and within the specific contact times.

Column 8b Concentration (%) at which, in at least two separate carrier experiments on non-porous surfaces (stainless steel carrier) with no protein soiling, a reduction of 95% on average in the infectivity of Cryptosporidium parvum oocytes was achieved at the set test temperature and within the specific contact times. At the same time, none of the individual values may show a reduction of less than 93%.
3.3 Veterinary practice

3.3.1 Bactericidal activity

Column 5a Concentration (%) at which, in at least two separate carrier experiments on non-porous surfaces (stainless steel carrier) with the low level soiling of 3.0 g/l BSA, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the test temperature of 20°C and within the specific contact times.

Column 5b Concentration (%) at which, in at least two separate carrier experiments with wipe disinfection with protein soiling, a reduction of at least 4 lg in the CFU of the limiting test organism was achieved at the test temperature of 20°C and within the specific contact times.

3.3.2 Virucidal activity

Column 6a Concentration (%) at which, in at least two separate carrier experiments on non-porous surfaces (stainless steel carrier) with the low level soiling of 3.0 g/l BSA, a reduction of at least 4 lg in TCID$_{50}$ of Porcine parvovirus was achieved at the test temperature of 20°C and within the specific contact times.

3.3.3 Fungicidal activity

Column 6b Concentration (%) at which, in at least two separate carrier experiments on non-porous surfaces (stainless steel carrier) with low soiling of 3.0 g/l BSA, a reduction of at least 3 lg in the CFU of Aspergillus brasiliensis was achieved at the test temperature of 20°C and within the specific contact times.
EXPERT OPINION

Efficacy testing for disinfectant "Desin007":

Area of application: (for example) Animal husbandry
    (for example) bactericidal, yeasticidal and fungicidal activity

Batch number: 00967-90
Delivery date: 21 May 2018
Test period: 01 June 2018 to 30 October 2018

The disinfectant is a/an

- Original product
- □ Reference formulation for marketing under other product names
- □ Name under which reference formulation (name) is to be marketed: DES 123
  Following implementation and separate documentation of a test of selected parameters

Personal expert opinion issued by:

Postal address of expert:

Postal address of client:

Length of expert opinion: xyz pages
Basis of expert opinion:

DVG test guidelines for efficacy testing of disinfectants [Richtlinien für die Prüfung von Desinfektionsverfahren und chemischen Desinfektionsmitteln] issued by the DVG, 4th edition, as at: xxxx

Notes:

The expert opinion is for submission to the DVG Committee for Disinfection only and must be submitted within a year of drafting.

The listing proposals in the expert opinion are not a recommendation for use; they are merely, together with the findings of at least one other expert opinion, used by the Committee for Disinfection to specify the parameter values for the disinfectant list.

The client may not use the expert opinion for advertising purposes, for example to state that the product has been "tested in accordance with DVG guidelines", until the Committee for Disinfection has listed the product and thus accepted the expert opinion.
### 4.2 Template for listing recommendation

#### 4.2.1 Food sector

<table>
<thead>
<tr>
<th>List area</th>
<th>Temp °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Meat area</td>
<td>4/10</td>
</tr>
<tr>
<td>B Dairy area</td>
<td>4/10</td>
</tr>
<tr>
<td>C Canteens</td>
<td>4/10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Contact time min</th>
</tr>
</thead>
<tbody>
<tr>
<td>4°C</td>
<td>5a 5b 6a 6b 7a 7b 8a 8b 9a 9b 10a 10b 11a 11b 12a 12b</td>
</tr>
<tr>
<td>5°C</td>
<td>30’ 5’ 30’ 5’ 30’ 5’ 30’ 5’ 30’ 5’ 30’ 5’ 30’ 5’ 30’</td>
</tr>
<tr>
<td>20</td>
<td>15’</td>
</tr>
</tbody>
</table>

The listing recommendation is to be entered in the corresponding fields. Please specify the application temperature (4°C or 10°C).

#### 4.2.2 Animal farming

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Contact time min</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>30 60 120</td>
</tr>
<tr>
<td>20</td>
<td>30 60 120</td>
</tr>
</tbody>
</table>

The listing recommendation is to be entered in the corresponding fields.
### 4.2.3 Veterinary practice

<table>
<thead>
<tr>
<th>Contact time min</th>
<th>Preventive disinfection</th>
<th>Special disinfection against</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without mechanical action</td>
<td>Scrub/wipe disinfection</td>
</tr>
<tr>
<td>4</td>
<td>5a</td>
<td>5b</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The listing recommendation is to be entered in the corresponding fields.