DVG-listing of disinfectants for Animal Husbandry
on the basis of tests in accordance with EN 14349 and EN 16437

The “Committee for disinfection” of the German Veterinary Medical Society (DVG) has been working
decades for a standardized, harmonized, pragmatic efficacy testing of disinfectants and disinfection
procedures. Therefore, the Committee is also engaged in the development of European standards (EN
test standards) for efficacy testing of disinfectants in the field of animal husbandry since the beginning.

Therefore, DVG Committee for disinfection recognizes the EN-testing standards for disinfectants and
considers these as a prerequisite for the DVG-listing of chemical disinfectants. Therefore, there are
also appropriate proofs of efficacy according to current EN testing standards for all disinfectants that
are newly listed in DVG-disinfectant lists after 2013 for the livestock area.

When evaluating the test results for DVG-listing the following principles were applied:

- **Independence**: evaluation of disinfecting efficacy only through independent (from the
manufacturer) experts
- **Repeatability**: assessment by two independent experts and execution of at least two
independent test repetitions due the experts
- **validity**: examination of the test results by independent experts of the DVG-Committee
  Disinfection regarding i) compliance with the test methods, ii) plausibility of the individual
  results and iii) reasonableness of the recommended concentrations for the application of the
disinfectant
- **practical relevance**: efficacy testing under realistic conditions (for example: surface pollution,
temperature) and with detection of the Minimum Inhibitory Concentration (MIC) for
application security under practical conditions and to avoid biocide resistance.

**Listing in the DVG-list of disinfectants based on EN-tests**

DVG-listing for livestock based on reports / tests according to EN 14349 and EN 16437 is possible for:

- 60 min efficacy (if tested in addition also 30 and 120 min) at 10 °C
- Bactericidal activity

For additional areas (yeasticidal, fungicidal, virucidal, parasites effectiveness) efficacy testing on the
basis of the actual DVG test guidelines is required until the entry into force of EN-testing standards
based on the relevant germ carrier tests (porous surfaces).

**Requirements for DVG-listing based on EN test reports**

1. An **independent** expert opinion in accordance with EN 1656, EN 1657 (by independent,
   accredited experts or by DVG-approved experts, no tests of the manufacturer) and tests
   according
   - EN 14349 (stainless steel carriers) for DVG-listing for preventive bactericidal
disinfection
EN 16437 (wooden carriers) for DVG-Listing for specific bactericidal disinfection

2. At least two independent repetitions of the carrier tests according to EN 14349 and EN 16437 with the most resistant test bacterium in the expert opinion. Link to DVG guidelines.

3. Determination of Minimum Inhibitory Concentration (MIC) according to DVG guidelines in two independent repetitions with all test organisms in the full test report. A DVG-listing below the MIC is not possible with respect to possible biocide resistances and co-induction and selection of antibiotic resistances. This test is also possible in addition to the full report by the original evaluator or by a DVG-recognized expert.

4. Detection of sensitivity of the most resistant test organism against the reference substance (only a single predetermined value in the carrier test according to EN 14349 and/or EN 16437 in two independent preparations). If concentrations of the respective reference substance are so far not specified by the DVG-Committee proof of sensitivity against reference substance has to be done by determination of MIC against all test organisms (see item 3). Link to DVG guidelines.

5. Semi-quantitative suspension test according to DVG guidelines with the most resistant test microorganism from EN 14349 in two independent preparations. This test is also possible in addition to the full report by the original evaluator or by a DVG-recognized expert.

6. The listing values of the full report (defined by the Committee) shall be confirmed by a second DVG-approved expert with the following tests:
   - tests according to EN 14349 and/or EN 16437 or the DVG-carrier tests with the most resistant test microorganism in three independent approaches.
   - Sensitivity of the test microorganism against the reference substance (only a single predetermined value in the carrier test according to EN 14349 or EN 16437 or the DVG-germ carrier test with a load of 3 g / l BSA) in two independent trails.
   - Determination of MIC with the most resistant test microorganism in two independent approaches.

Furthermore, the experts involved have to prepare an expert opinion according DVG instructions for experts.