

Antimicrobial efficacy of disinfectants for veterinary and agricultural use —

Method

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee, CH/216, Chemical disinfectants and antiseptics, upon which the following bodies were represented:

- Association of British Healthcare Industries
- British Association for Chemical Specialities
- British Medical Association
- British Society of Soil Science
- Campden and Chorleywood Food Research
- Camping and Caravanning Club Ltd
- Caravan Club
- Chemical Industries Association
- Department for Environment, Food and Rural Affairs
- Health Protection Agency
- Health and Safety Executive
- Hospital Infection Society
- Laboratory of the Government Chemist Ltd
- Local Government Association
- Society for Applied Microbiology
- Society of Chemical Industry
- Trading Standards Institute
- UK Cleaning Products Industry Association
- Veterinary Medicines Directorate

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Foreword

This British Standard has been prepared by Technical Committee CH/216. It supersedes BS 6734:1986, which was withdrawn in April 2004 due to lack of confidence.

The concerns about BS 6734:2004 expressed by committee members have been addressed in drafting this standard.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 9 and a back cover.

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1 Scope

This British Standard describes a method for determining the antibacterial efficacy of disinfectants intended for use in livestock farming applications.

The method described in this standard is applicable to disinfectants intended for use against tuberculosis.

2 Terms and definitions

For the purposes of this British Standard, the following terms and definitions apply.

2.1

antibacterial efficacy

lowest concentration (greatest dilution) of a disinfectant that will reduce the bacterial population in a challenge medium by at least a factor of 10^4

3 Principle

A challenge medium containing *Mycobacterium fortuitum* is added to a series of dilutions of a product in hard water. After a contact time of 60 min at 4 °C, a portion of each mixture is deactivated and then subcultured into five replicate tubes of recovery broth, which are incubated and examined for growth.

NOTE 1 The test organism has been placed in Category 2 by the Advisory Committee on Dangerous Pathogens.

The procedure is repeated, as necessary, until two dilutions differing in concentration by a ratio 9:10 are obtained, one of which produces growth in more than three of the five replicates and the other of which shows no growth in two or more of the five replicates.

NOTE 2 Absence of growth in two or more of the five replica cultures is equivalent to a reduction of at least 99.99 % in the initial colony count.

4 Sterilization

Wherever sterile reagents, media, materials or apparatus are referred to, or an instruction to sterilize them is given, sterility shall be that achieved by being kept at either:

- a) 170 °C to 175 °C for not less than one hour in an oven (dry sterilization¹⁾); or
- b) 121^{+3}_0 °C for not less than 15 min in an autoclave (wet sterilization).

Carry out manipulation of sterile material and bacterial cultures aseptically.

5 Reagents and materials

5.1 General

All reagents shall be of recognized biological or analytical grade. Water shall be free from substances that are toxic or inhibiting to the bacteria. It shall be freshly glass distilled or, if distilled water of adequate quality is not available, water for injectable preparations (EDQM) and not demineralized water.

All solutions and media other than yeast suspension shall be freshly prepared so as to be fit for purpose, i.e. support bacterial growth as appropriate and not possess inhibitory properties.

5.2 Diluent. Dissolve 0.305 g of anhydrous calcium chloride (CaCl_2) and 0.139 g of magnesium chloride hexahydrate ($\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$) in water and dilute to one litre.

NOTE This is standard hard water of 342 mg/kg hardness in accordance with Emulsion Stability Test WHO/M/13 in *Specifications for pesticides used in public health* [1].

¹⁾ This method is suitable for dry glassware only.