

**Defra approval of disinfectants under the Diseases of Animals (Approved Disinfectants) (England) Order 2007 for the purposes of the Animal Health Act 1981;**

The Animal Health and Veterinary Laboratories Agency (AHVLA) delivers the disinfectant approval scheme on behalf of Defra. Disinfectants may be tested for efficacy for use under the following animal disease orders in accordance with UK statutory legislation;

**Foot-and-mouth disease virus (FMDV)**

**Swine vesicular disease virus (SVDV)**

**Tuberculosis disease (TB)**

**Diseases of Poultry Order and Avian Influenza and Influenza of Avian Origin in Mammals Order (DoP and AI&AOM)**

**General Orders** – (GO) the Animal Health Act 1981 allows Ministers to make Orders for prescribing the cleansing and disinfection of places used for the holding of markets, fairs, exhibitions or sales of animals or lairage, yards, sheds, stables, vessels, aircraft, vehicles, pens etc. Orders may also be made under the European Communities Act stating where animal disease control legislation requires the use of an approved disinfectant.

**For use against foot-and-mouth disease virus (FMDV):**

Dilution rates of disinfectants for use against foot-and-mouth disease virus relate to the effectiveness when applied to a clean surface.

The Institute for Animal Health will carry out the following test:

The standard Defra test is a disinfectant suspension test where dilutions of the disinfectant under test are made in W.H.O hard water in the presence of 1% foetal bovine serum. The serum provides a level of protein soiling for the test. FMDV is added to this solution of disinfectant in WHO hard water and the mixture is held at 4°C for 30 minutes. Residual virus infectivity is detected and quantified by inoculating serial dilutions of the test mixtures onto susceptible cell culture. Disinfectants under test will be deemed efficacious if the virus titre is reduced by at least 10<sup>4</sup> (4 logs) in the test. The strain of FMDV used for the test is FMDV O1 BFS (British field strain) 1860/UK/67 which is a well characterised strain of FMDV that was isolated in the 1967 outbreak.

*References:*

- *Macpherson, I.A. & Stoker M.G.P [1962], Virology, 16.*
- *Sellers, R.F [1968]. Vet. Rec. 83, 504.*

**For use against swine vesicular disease virus (SVDV):**

Dilution rates of disinfectants for use against swine vesicular disease relate to the effectiveness when applied to a clean surface.

The Institute for Animal Health will carry out the following test:

The standard Defra test is a disinfectant suspension test where dilutions of the disinfectant under test are made in W.H.O hard water. SVDV is added to this solution of disinfectant in WHO hard water and the mixture is held at 4°C for 30 minutes. Residual virus infectivity is detected and quantified by inoculating serial dilutions of the test mixtures onto susceptible cell culture. Disinfectants under test will be deemed efficacious if the virus titre is reduced by at least 10<sup>4</sup> (4 logs) in the test. The strain of SVDV used for the test is SVDV UK G 27/72 which is a well characterised British field strain that was isolated in 1972.

*References:*

- *Herniman K.A.J., Medhurst P.M., Wilson J.N and Sellers R F [1973], Veterinary Record 93, 620.*
- *Sellers R.F [1968], Veterinary Record 83, 504.*

### **For use against Diseases of Poultry, Avian Influenza and Influenza of Avian Origin in Mammals:**

The standard Defra test for efficacy against Diseases of Poultry, Avian Influenza and Influenza of Avian Origin in Mammals to be carried out at the AHVLA will be similar to that laid down for General orders (made under the Animal Health Act or the European Communities Act), except that the test organism will be Newcastle disease virus, strain Herts 33. Manufacturers have the option at the time of application of a single or triple dilution test of their products at the appropriate fee. The latter test is intended to give manufacturers some assistance in the full selection of an effective concentration of a disinfectant. The test mixture will be held at 4°C for 30 minutes and at the end of this time a dilution made in 5% inactivated horse serum. Further dilutions will be made for titration of the virus. The disinfectant under test must give a reduction of at least 10<sup>4</sup> in virus titre.

For all Diseases of Poultry tests, control preparations will be held, before titration, at the prescribed temperature for the same time as the test mixtures.

*A protocol of testing is available for manufacturers who indicate interest in the use of their products against diseases of poultry.*

### **For use against Tuberculosis:**

- The effective concentration of the disinfectant is that which, when added to the yeast organism mixture, gives at least a 10<sup>4</sup> reduction of bacterial population. The AHVLA will confirm efficacy at the concentration specified by the applicant.
- The following is a brief description of the test. For full details refer to the British Standard BS 6734: 1986 Determination of the Antimicrobial Efficacy of Disinfectants for Veterinary and Agricultural Use.

A solution of the disinfectant to be tested is prepared at 100% of the manufacturer's recommended use dilution in standard hard water. The test is carried out using *Mycobacterium fortuitum* (NCTC\* 8573, NCIB# 10384) in a yeast suspension (5% w/v) at 4°C and a contact time of 60 minutes.

\*Obtainable from the National Collection of Type Cultures, Central Public Health Laboratory, Colindale, London NW9 8DG.

# Obtainable from the National Collections of Industrial and Marine Bacteria Ltd, Torrey Research Station, Aberdeen AB9 8DG.

### **For use under General Orders (GO)**

- The effective concentration of the disinfectant is that which when added to the yeast organism mixture gives at least a 10<sup>4</sup> reduction of bacterial population. The AHVLA will confirm efficacy at the concentration specified by the manufacturer.
- The following is a brief description of the test. For full details refer to the British Standard BS 6734: 1986 Determination of the Antimicrobial Efficacy of Disinfectants for Veterinary and Agricultural Use.

A solution of the disinfectant to be tested is prepared at 100% of the manufacturer's recommended use dilution in standard hard water. The test is carried out using *Salmonella cholerae suis* (NCTC\* 10653, NCIB# 10383) in a yeast suspension (5% w/v) at 4°C and a contact time of 30 minutes.

\*Obtainable from the National Collection of Type Cultures, Central Public Health Laboratory, Colindale, London.

# Obtainable from the National Collections of Industrial and Marine Bacteria Ltd, Torrey Research Station, Aberdeen AB9 8DG.