



Animal & Plant Health Agency

Address for correspondence:

Defra Disinfectant Approvals
Bacteriology Department
Stewart Stockman Building SE175
Animal and Plant Health Agency
Woodham Lane
Addlestone, Surrey KT15 3NB.

t: +44 (0)208 026 9609
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James Milnes
Zoono Holdings Ltd
Unit 15, Bunting Road
Bury St Edmonds
SUFFOLK
IP32 7BX

Date: 20th April 2020
Ref: DTA519

Dear Mr Milnes

RE: The Diseases of Animals (Approved Disinfectants) (England) Order 2007 No 448

This report provides the test results for the disinfectant **Zoono Z-71 Microbe Shield Animal Protect** which you submitted for efficacy testing for the purpose of Defra approval for the purposes of the Animal Health Act 1981, and which are used under the relevant disinfectant approval Orders for use in England, Scotland and Wales;

- **The Diseases of Animals (Approved Disinfectants) (England) Order 2007 No. 448**
- **The Diseases of Animals (Approved Disinfectants) (Scotland) Order 2008 No. 219**
- **The Diseases of Animals (Approved Disinfectants) (Wales) Order 2007 No. 2803.**

To view the above legislation, please see <https://www.gov.uk/defra-approved-disinfectant-when-and-how-to-use-it>

Foot and Mouth Disease Orders (FMD) and Swine Vesicular Disease Orders (SVD) tests are conducted at The Pirbright Institute (PI). The Diseases of Poultry Order, and the Avian Influenza and Influenza of Avian Origin in Mammals Order (DoP, IA&IAOM), Tuberculosis Orders (TBO) and General Orders (GO) tests are conducted at The Animal and Plant Health Agency (APHA).

You requested efficacy tests for the following;

- FMD
- SVD
- DoP, AI&IAOM
- TBO
- GO

Your disinfectant sample details;

Disinfectant name	Zoono Z-71 Microbe Shield Animal Protect
APHA SR Ref;	SR486
Physical form	Liquid
Batch number	ZHLAP0769
Date of manufacture	May 2019
Date of expiry	May 2023
Storage conditions	Store in tightly closed original container in a dry, cool and well-ventilated place.
Comments	NONE



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Results Summary. For more detail see Annex I

Disease Order	Dilution*	Result
FMD	1:0	Result awaited
SVD	1:0	Fail
DOP, AI&IAOM	1:0	Pass
TB Orders	1:0	Fail
GO	1:0	Pass

*One part disinfectant plus x parts water where 1 part disinfectant means either 1ml of liquid or 1g solid formats.

Where it is indicated at the end of each result table in Annex I that the result obtained confirms that the named disinfectant is suitable for Defra approval, please contact me to proceed with the approval. You will need to sign a 'conditions of approval' letter and return it to the disinfectant approvals team at this office before your disinfectant can be added to the Defra approved disinfectants list. We aim to list approvals within 5 working days of receipt of the signed 'conditions of approval letter'. The letter will provide you with the Defra approval labelling text that you are legally required to display on your product label prior to marketing the disinfectant as Defra approved.

You may not market your disinfectant as Defra approved until the name and details of the approval appear on the list http://disinfectants.defra.gov.uk/Default.aspx?Module=ApprovalsList_SI

Where it is indicated at the end of each result table above that the result obtained confirms that the named disinfectant is not suitable for Defra approval, you may submit a new application using the DDA1 form available to download here <https://www.gov.uk/government/publications/defra-approved-disinfectant-application>

Should you have any questions relating to this report, please contact me.

Sent via email to James Milnes james.milnes@zoono.com

Yours sincerely

Emma West

**Defra Disinfectant Approvals Manager
Animal and Plant Health Agency (APHA)**

Telephone: 0208 026 9609 | Email: Emma.West@apha.gov.uk

Website: www.gov.uk/apha | Twitter: [@APHAgovuk](https://twitter.com/APHAgovuk) | Facebook: [aphagov](https://www.facebook.com/aphagov)

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Annex I

Swine Vesicular Disease Regulations/Orders. Test results are obtained under laboratory conditions at The Pirbright Institute, using a test method accredited by UKAS to ISO/IEC 17025:2017 'General requirements for the competence of testing and calibration laboratories'.

Challenge pathogen	SVDV UK G 27/72
APHA sample receipt reference	SR486
PI Sample Ref.	DEF0220 SVDV
Disinfectant name	Zoono Z-71 Microbe Shield Animal Protect
Inoculum/load (control virus titre) (Log ₁₀)	7.40
Test temperature	+4°C ± 0.5°C
Contact time	30 minutes ± 10 seconds
Interfering (soiling) agent	Not used in the test
Neutraliser	PBS
Comments	None
Replicates per test	5
Disinfectant dilution	None, ready-to-use formulation
Observed reduction in titre (mean of 5 replicates)	1.04
95% confidence interval for reduction in titre	0.19-1.90
Has product passed test? (reduction in titre >4 Log ₁₀ when considering 95% confidence interval) Yes/No	No
**Recommended for Defra approval at the specified dilution? (Must have passed test) Yes/No	No

*One part disinfectant plus x parts water where 1 part disinfectant means either 1ml of liquid or 1g solid formats.

**This product is not Defra approved unless the name and details of the approval appear on the Defra Approved Disinfectants list http://disinfectants.defra.gov.uk/Default.aspx?Module=ApprovalsList_SI

Diseases of Poultry, Avian Influenza & Influenza of Avian Origin in Mammals – Single dilution. Test results are obtained under laboratory conditions at The Animal and Plant Health Agency, using a test method accredited by UKAS to ISO/IEC 17025:2005 'General requirements for the competence of testing and calibration laboratories'.

Challenge pathogen	Newcastle disease virus, strain Herts 33
APHA sample receipt reference	SR486
Disinfectant name	Zoono Z-71 Microbe Shield Animal Protect
Inoculum/load	6.49
Test temperature	+4°C ± 0.5°C
Contact time	30 minutes ± 30 seconds
Interfering (soiling) agent	5% (w/v) Baker's yeast in WHO hard water.
Neutraliser	5% Inactivated horse serum in sterile distilled water
Comments	None
Replicates per test dilution	7
*Disinfectant dilution	None, ready to use formulation
Control virus titre (Log ₁₀)	6.49
Observed reduction in titre (mean of 7 replicates)	≥6.29
Has product passed test? (reduction in titre >4 Log ₁₀ when considering 2 x Coefficient of variation of control virus titre) Yes/No	Yes
**Recommended for Defra approval at the specified dilution? (Must have passed test) Yes/No	Yes

*One part disinfectant plus x parts water where 1 part disinfectant means either 1ml of liquid or 1g solid

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Tuberculosis Orders – Single dilution. Test results are obtained under laboratory conditions at The Animal and Plant Health Agency, using a test method accredited by UKAS to ISO/IEC 17025:2005 ‘General requirements for the competence of testing and calibration laboratories’.

Challenge pathogen	<i>Mycobacterium fortuitum</i> (NCIMB# 10384)		
APHA sample receipt reference	SR486		
Disinfectant name	Zoono Z-71 Microbe Shield Animal Protect		
Inoculum/load	≥ 1.0 x 10 ⁸ cfu/ml		
Test temperature	+4°C±0.5		
Contact time	60 minutes ±10 seconds		
Interfering (soiling) agent	5% (w/v) Baker's yeast in WHO hard water.		
Neutraliser	Lecithin		
Comments	None		
Disinfectant dilution	None, ready to use formulation		
Occasion (test performed on 3 occasions per dilution)	1	2	3
Number of tubes showing growth (x/5, 3 replicates)	5/5	5/5	5/5
Acceptable number of tubes showing growth in order to pass** test	≤1/5		
**Recommended for Defra approval at the specified dilution? (Must pass test for each replicate) Yes/No	No		

*One part disinfectant plus x parts water where 1 part disinfectant means either 1ml of liquid or 1g solid

** Product must indicate a 4Log₁₀ reduction in bacterial population including a 95% confidence interval in order to pass test

***This product is not Defra approved unless the name and details of the approval appear on the Defra Approved Disinfectants list http://disinfectants.defra.gov.uk/Default.aspx?Module=ApprovalsList_SI

General Orders – Single dilution. Test results are obtained under laboratory conditions at The Animal and Plant Health Agency, using a test method accredited by UKAS to ISO/IEC 17025:2005 ‘General requirements for the competence of testing and calibration laboratories’.

Challenge pathogen	<i>Salmonella</i> Enteritidis (NCTC 13665)		
APHA sample receipt reference	SR486		
Disinfectant name	Zoono Z-71 Microbe Shield Animal Protect		
Inoculum/load	≥ 1.0 x 10 ⁹ cfu/ml		
Test temperature	+4°C±0.5		
Contact time	30 minutes ±10 seconds		
Interfering (soiling) agent	5% (w/v) Baker's yeast in WHO hard water.		
Neutraliser	Lecithin		
Comments	None		
*Disinfectant dilution	None, ready to use formulation		
Number of tubes showing growth (x/5)	0/5		
Acceptable number of tubes showing growth in order to pass** test	≤1/5		
***Recommended for Defra approval at the specified dilution? (Must pass test) Yes/No	Yes		

*One part disinfectant plus x parts water where 1 part disinfectant means either 1ml of liquid or 1g solid

** Product must indicate a 5Log₁₀ reduction in bacterial population including a 95% confidence interval in order to pass test

***This product is not Defra approved unless the name and details of the approval appear on the Defra Approved Disinfectants list http://disinfectants.defra.gov.uk/Default.aspx?Module=ApprovalsList_SI