

Efficacy of Virkon S EN tests

Test method	Organism	Contact time	Temperature	Soiling	Effective concentration Virkon™ S
EN 1656	<i>S. aureus, P. vulgaris, P. aeruginosa, E. hirae</i>	30 min	10 °C	Low-level	0.5 %
EN 14349	<i>S. aureus, P. vulgaris, P. aeruginosa, E. hirae</i>	30 min	10 °C	Low-level	0.5 %
EN 1657	<i>Candida albicans</i>	60 min	10 °C	Low-level	1.5 %
	<i>Aspergillus brasiliensis</i>	60 min	10 °C	Low-level	Not effective
EN 16438	<i>Candida albicans</i>	60 min	10 °C	Low-level	1.5 %
EN 14675	ECBO	30 min	10 °C	Low-level	0.5 %

Efficacy against bacteria, different tests at 0.5% or lower

Organism	Strain(where stated)	Ref . No	Country	Comments	Pass Dilution(s) / Concentration(s)
Actinobacillus pleuropneumoniae	not specified	29	England	laboratory own	1:200
Actinobacillus pleuropneumoniae	field isolate	35	Japan	laboratory own	1:1000
Aeromonas hydrophila	not specified	41	Finland	laboratory own	1:200
Aeromonas salmonicida	Subsp achromogenes	41	Finland	laboratory own	1:200
Aeromonas salmonicida	Subsp salmonicida ATCC 14174	191	Norway	laboratory own	1:200
Brachyspira hyodysenteriae	2 strains; ATCC 27164 + field strain	219	Czech Republic	laboratory own	>1:3333
Brachyspira pilosicoli	ATCC 51139	219	Czech Republic	laboratory own	>1:3333
Campylobacter jejuni	type 365	227	Holland	EN1656	1:200
Clavibacter michiganensis	subsp. michiganensis	167	Canada	laboratory own	1:500
Enterococcus hirae	CIP 58.55	148	France	AFNOR NF T 72-171	1:200
Enterococcus hirae	CIP 58.55	196	France	EN1276	1:200
Erwinia amylovora	ICMP 9148	77	New Zealand	laboratory own	1:250
Erysipelothrix	field isolate	35	Japan	laboratory	1:1000

rhusiopathiae				own	
Escherichia coli	Strain ATCC 11229	78	England	laboratory own	1:200
Escherichia coli	ATCC 11229	118	USA	AOAC	1:200
Escherichia coli	CIP 54.127	148	France	AFNOR NF T 72-171	1:200
Escherichia coli	strain CIP 54.127	196	France	EN1276	1:200
Escherichia coli	Bacteriophage T2 with E coli B	198	France	AFNOR 72-181	1:1000
Escherichia coli	Bacteriophage MS 2 with E coli HfrH	198	France	AFNOR 72-181	1:500
Escherichia coli	Bacteriophage OX 174 with E coli ATCC 13706	198	France	AFNOR 72-181	1:2000
Escherichia coli	field isolate	35	Japan	laboratory own	1:1000
Legionella pneumophila	NCTC 11192	32	England	laboratory own	1:5000
Listeria monocytogenes	lux AD recombinant	120	England	laboratory own	1:1400
Mycoplasma hyorhinis	not specified	29	England	laboratory own	1:800
Mycoplasma mycoides	3 strains B102 strain Afade and NCTC 10114	186	UK	laboratory own	1:200
Mycoplasma mycoides	3 strains (Portugal B103) Africa (strain Afade) NCTC (10114)	189	UK	laboratory own	1:200
Pasteurella multocida	field isolate	35	Japan	laboratory own	1:1000
Providencia stuartii	EMAI source strain	246	Australia	laboratory own	1:200
Pseudomonas aeruginosa	ATCC 15442	113	USA	AOAC	1:200
Pseudomonas aeruginosa	CIP A22	148	France	AFNOR NF T 72-171	1:200
Pseudomonas aeruginosa	CIP103467	196	France	EN1276	1:200
Pseudomonas aeruginosa	field isolate	35	Japan	laboratory own	1:1000
Salmonella enterica	ATCC 10708	279	Germany	EN1656	1:400
Salmonella serovar gallinarum-pullorum	field isolate	35	Japan	laboratory own	1:1000
Salmonella thomasville	not specified	65	Denmark	laboratory own	1:200
Salmonella typhimurium	Strain HT-2	35	Japan	laboratory own	1:500
Salmonella typhimurium	DT104	165	England	pr EN1656	1:200
Salmonella	CVI-WUR-Lelystad strain	22	Holland	EN1656	1:200

enteritidis		7			
Salmonella hadar	CVI-WUR-Lelystad strain	22 7	Holland	EN1656	1:200
Salmonella infantis	CVI-WUR-Lelystad strain	22 7	Holland	EN1656	1:200
Salmonella typhimurium	CVI-WUR-Lelystad strain	22 7	Holland	EN1656	1:200
Salmonella virchow	CVI-WUR-Lelystad strain	22 7	Holland	EN1656	1:200
Serpulina hyodysenteriae *	Isolate P152	36	Scotland	laboratory own	1:400
Staphylococcus aureus	ATCC 6538	11 6	USA	AOAC	1:200
Staphylococcus aureus	CIP 53.154	14 8	France	laboratory own	1:2000
Staphylococcus aureus	field isolate	35	Japan	laboratory own	1:1000
Staphylococcus intermedius	Noble 4060	14 7	UK	AOAC	1:200
Streptococcus lactis	lactic 66 Strep lactis bacteriophage	19 8	France	AFNOR 72-181	1:4000
Streptococcus suis	field isolate	35	Japan	laboratory own	1:1000
Streptococcus suis	NCTC 10234	25 2	UK	EN1656	1:400
Taylorella (Haemophilus) equigenitalis	CEM 1574/87	68	Sweden	laboratory own	1:400
Taylorella (Haemophilus) equigenitalis	CEM 769/87	68	Sweden	laboratory own	1:400
Taylorella (Haemophilus) equigenitalis	CEM 3336/88	68	Sweden	laboratory own	1:400
	Note: weblink where stated refers to UK DEFRA Disinfectants list of approved products				

Efficacy against viruses at 0.5% or lower, all tests

Family	Genera	Organism	Ref. No.	Strain (where stated)	Country	Comments	Pass Dilution(s) / Concentration(s)
	Aviadenovirus	Avian adenovirus type 2	268	ATCC VR-280 (Fontes)	USA	EPA	1:200
Arenaviridae	Arenaviruses	Lassa fever virus	19	VLA	England	VLA	1:200
Arteriviridae	Arteriviruses	Lelystad virus	81	VLA	England	UK Yeast Method	1:700
	Arteriviruses	Equine arteritis virus	10	Bucyrus strain	England	VLA	1:350
	Arteriviruses	Porcine Respiratory & Reproductive Syndrome virus	208	NVSL strain	USA	EPA	1:250
	Arteriviruses	Porcine Respiratory & Reproductive Syndrome virus	208	NVSL strain	USA	EPA	1:500
	Arteriviruses	Porcine Respiratory & Reproductive Syndrome virus	251	NVSL strain	USA	EPA	1:600
	Arteriviruses	Porcine Respiratory & Reproductive Syndrome virus	260	NVSL strain	USA	EPA	1:600
	Arteriviruses	Porcine Respiratory & Reproductive Syndrome virus	277	NSVL strain	USA	5°C/1min	1:200
Birnaviridae	Birnaviruses	IBD virus	44	Strain DV86	England		1:250
		IBD virus	193	K strain	Japan	5% FCS	1:1000
		Infectious pancreatic necrosis	217	prEN14675	UK	30mins 4 C	1:200
		IBD virus	253	Solvay strain	USA	EPA	1:200
Bunyaviridae	Phlebovirus	Rift valley fever virus	18	not specified	England	VLA	1:400

Circoviridae	Circovirus	Chicken anaemia virus	134	Cux 1	England	DEFRA method	1:250
	Circovirus	Porcine circovirus Type 2	200	not specified	USA	EPA	1:200
	Coronavirus	TGE Virus	8	Strain FS216/63	England	DEFRA method	1:450
	Coronavirus	Porcine enteric diarrhoea virus	255	Colorado 2013 isolate	USA	EPA	1:600
	Coronavirus	Infectious Bronchitis Virus	262	Solvay AH strain Beaudette IB42	USA	EPA	1:200
	Coronavirus	Porcine enteric diarrhoea virus	269	Colorado 2013 isolate	USA	EPA	1:200
	Pestivirus	Bovine viral diarrhoea virus	193	Nose strain	Japan	5% FCS	1:500
	Pestivirus	Bovine viral diarrhoea virus	193	Nose strain	Japan	0.5% FCS	1:1000
	alpha	Bovid herpesvirus 1	9	Oxford strain	England	DEFRA method	1:600
	alpha	Suid herpes virus 1	34	field strain no.86/7756	New Zealand	Aujeszky's disease	1:200
	gamma	Gallid herpes virus 2	69	Not specified	England	DEFRA method	1:200
	gamma	Gallid herpes virus 1	243	Strain LT-IVAX	USA	EPA	1:200
	gamma	Gallid herpes virus 2	265	Marek's disease Charles River Lab. strain	USA	EPA	1:200
Iridoviridae	species specific	ASF virus	183	ASF virus isolate LIL	England	DEFRA method	1:800
Orthomyxoviridae	type A	Avian influenza virus	11	H7N1	England	DEFRA method	1:320
	type A	Avian influenza virus*	web link	* claims made vs AI virus are only valid within the scope of the DEFRA Diseases of Poultry Order and the Avian Influenza and	England	UK DEFRA Approval	1:280

				Influenza of Avian Origin in Mammals Order			
	type A	Avian influenza virus	218	A/Goose/Guangdong/1/96 (H5N1)	China	H5N1 strain	1:800
	type A	Avian influenza virus	218	A/Turkey/Wisconsin/1/66 (H9N2)	China	H9N2 strain	1:1000
	ISA virus	Infectious salmon anemia virus	187	not specified	Canada	EPA	1:200
	type A	avian influenza virus	226	H5N1	Thailand	OIE method	1:500
	type A	avian influenza virus	254	H7N9	USA	EPA	1:600
	type A	avian influenza virus	261	H7N9 strain wildtype A/Anhui/1/2013 CDC # 2013759189	USA	EPA	1:200
	type A	swine influenza A	273	H1N1 strain ATCC VR-333	USA	EPA	1:200
	type A	avian influenza virus	274	H7N9 Strain Wildtype A/Anhui/1/2013	USA	EPA	1:200
	type A	avian influenza virus	275	H5N1	Thailand	laboratory own	1:250
Paramyxoviridae	Avian paramyxovirus	Avian paramyxovirus 1	web link	Herts. 1933	England	UK DEFRA Approval	1:280
	Paramyxovirus	Newcastle Disease Virus	193	B1 strain	Japan	5% FCS	1:500
	Paramyxovirus	Newcastle Disease Virus	218	F48E9 strain	China	laboratory own	1:1500
	Pneumovirus	TRT virus	15	Strain CVL14/1CEF(4)	England	DEFRA method	1:200
	Avian paramyxovirus	Newcastle Disease Virus	256	ATCC VR-108	USA	EPA	1:200
	Avian paramyxovirus	Newcastle Disease Virus	263	ATCC VR-108 Strain B1	USA	EPA	1:200
Picornaviridae	Aphthovirus	Foot and mouth disease virus	web link	FMDV strain O1 BFS 1860/67	England	UK DEFRA approval	1:1300

	Apthovirus	Foot and mouth disease virus	193	0/JPN/2000 strain	Japan	laboratory own	1:2000
	Apthovirus	Foot and mouth disease virus	240	O1 BFS 1860/67	UK	IAH / DEFRA test method with 1% FBS	1:1800
	Apthovirus	Foot and mouth disease virus	231	O1 BFS 1860 (Type 0 British field strain)	UK	5% FBS	1:200
	Enterovirus	Foot and mouth disease virus	276	O1 BFS 1860/67	UK	DEFRA method	1:200
Poxviridae	Parapox virus	Bovine pseudocowpox virus	3	not specified	England	VLA	1:300
Reoviridae	Reovirus	Avian reovirus	20	not specified	England	laboratory own	1:200
	Rotavirus	Rotavirus	87	Monkey strain SA-II	Russia	laboratory own	1:250
	Rotavirus	Rotavirus	87	Human strain	Russia	laboratory own	1:200
	Rotavirus	porcine rotavirus	259	ATCC VR-893 Strain OSU Attenuated	USA	EPA	1:600
	Lentivirus	Maedi and visna virus	6	K184 strain	England	DEFRA method	1:1400
	Oncovirus	Avian leucosis virus	176	Strain J	England	DEFRA method	1:200
Rhabdoviridae	lyssavirus	Rabies virus	16	CBS Strain	England	DEFRA method	1:600
	novirhabdovirus	Snakehead rhabdovirus	80	Strain 19	Scotland	laboratory own	1:500 & 1:1000
	novirhabdovirus	Snakehead rhabdovirus	80	Ban Pako strain	Scotland	laboratory own	1:500 & 1:1000