

Efficacy Testing Conducted on BioProtect

- **TGA Disinfectant Testing**
- **1 Day Challenge Testing** – *MRSA*
- **14 Day Challenge Testing** – *E coli, Salmonella, VRE*
- **14 Day Challenge Testing** – *Feline Calicivirus* (Norovirus Surrogate)
- **28 day Challenge Testing** – *E coli, Salmonella, VRE*
- **Hard Surface Challenge Testing** – *Clostridium Difficile*
- **Standard Quantitative Carrier Test** – *Clostridium Difficile* (Spore Form)
- **Surface Testing Aluminium** – *Feline Calicivirus* (Norovirus Surrogate)
- **Surface Testing Carpet** – *Feline Calicivirus* (Norovirus Surrogate)
- **Surface Testing Linoleum** – *Feline Calicivirus* (Norovirus Surrogate)
- **Surface Testing PVC** – *Feline Calicivirus* (Norovirus Surrogate)
- **Surface Testing Stainless Steel** – *Feline Calicivirus* (Norovirus Surrogate)
- **Surface Testing Untreated Wood** – *Feline Calicivirus* (Norovirus Surrogate)
- **Surface Testing Aluminium** – *Vibrio Cholerae*
- **Viricidal Efficacy Suspension Test** – *Swine Influenza Virus (H1N1)*

Toxicology Testing Conducted on ISO Protect

- **Acute Dermal Toxicity Study** – Classified under “**Category 5**” as per Harmonised Systems for Classification of Chemicals (UN GHS 2013)
- **Acute Inhalation Study** – LC 50 Greater than 1.48 mg/l (highest technically achievable concentration) is categorised as “**Unclassified**” as per Harmonised Systems for Classification of Chemicals (UN GHS 2013)
- **Acute Dermal Irritation/Corrosion Study** – Classified as “**Non-Irritant**” as per Harmonised Systems for Classification of Chemicals (UN GHS 2013)
- **Acute Eye Irritation/Corrosion Study** – Classified as “**Not Irritating to Eyes**” as per Harmonised Systems for Classification of Chemicals (UN GHS 2013)
- **Acute Skin Sensitization Study** – Classified as “**Negative**” as per Harmonised Systems for Classification of Chemicals (UN GHS 2013) and “**Weak Sensitiser, Grade 1**” on the Megnusson & Kligman Rating of Allergenicity.
- **Acute Oral Toxicity Study** – Classified as “**Category 5**” or “**Unclassified**” as per Harmonised Systems for Classification of Chemicals (UN GHS 2013)

- **All test data available upon request**

Pathogens Inactivated by BioProtect Active Ingredients: A Proprietary Blend of Highly Effective Quaternary Amines

Gram Positive Bacteria	Reference
Bacillus sp. (vegetative cell)	5, 6, 11
Corynebacterium diphtheriae	1,13
Clostridium difficile	25
Listeria monocytogenes	23, 24, 25
Micrococcus lutea	5, 6, 11
Micrococcus sp.	2, 5, 15
Mycobacterium tuberculosis	14
Mycobacterium smegmatis	14
Propionibacterium acnes	5
Staphylococcus aureus***	2, 3, 5, 6, 10, 11, 13, 15, 21, 23, 29, 30, 31
Staphylococcus epidermidis	2, 5, 6, 7, 11, 13, 14, 15
Staphylococcus haemolyticus*	31
Streptococcus faecalis	2, 5, 6, 7, 11, 13, 14
Streptococcus mutans	5, 6, 7, 11
Streptococcus pneumonia	1
Streptococcus pyogenes*	5, 6, 7, 11, 29
Gram Negative Bacteria	
<i>Acinetobacter calcoaceticus</i>	2, 5, 6, 11, 14, 15
<i>Aeromonas hydrophilia</i>	5, 6, 11
<i>Citrobacter deversus</i>	5, 6, 11
<i>Citrobacter freundii</i>	5, 6, 11
<i>Enterobacter aerogenes</i>	5, 6, 7, 11
<i>Enterobacter agglomerans</i>	2, 5, 14, 15
<i>Enterobacter cloacae</i>	5, 6, 7, 11
<i>Enterococcus</i>	10
<i>Escherichia coli**</i>	1, 2, 3, 5, 6, 7, 10, 11, 13, 14, 29, 31
<i>Escherichia coli O157:H7*</i>	27
<i>Klebsiella oxytoca</i>	5,6,11,14
<i>Klebsiella pneumonia*</i>	3, 5, 6, 7, 9, 10, 11, 13, 14, 31
<i>Klebsiella terrina</i>	19
<i>Legionella pneumophila</i>	1
<i>Morganella morganii</i>	5, 6, 7, 11
<i>Proteus mirabilis**</i>	5, 6, 7, 11
<i>Proteus vulgaris</i>	5, 6, 7, 11
<i>Pseudomonas aeruginosa***</i>	2, 3, 5, 6, 7, 11, 13, 14, 28, 29, 31
<i>Pseudomonas fluorescens</i>	5, 6, 7, 10, 11
<i>Salmonella cholerae suis</i>	5, 6, 7, 11, 14
<i>Salmonella typhi</i>	5, 6, 7, 11, 14
<i>Salmonella typhimurium*</i>	1,5,6,7,11, 27
<i>Salmonella enterica*</i>	29
<i>Serratia liquifaciens</i>	5, 6, 7, 11

<i>Serratia marcescens</i>	5, 6, 7, 11
<i>Xanthomonas campestris</i>	5, 6, 7, 11

Viruses	
Adenovirus Type II & IV	17, 18, 21
Bovine Adenovirus Type I & IV	17, 18,21
Murine Norovirus 1*	26
Feline pneumonitis	21
Herpes Simplex Type I	16, 17,18
Herpes Simplex Type II	21
HIV-I(AIDS)	21
Influenza A2 (Aichi)	17, 18,21
Influenza A2 (Asian)	17,18
Influenza B	17,18
Mumps	17, 18
Parinfluenza (Sendai)	21
Rous Sarcoma	17,18
Reovirus Type I	17,18
Simian Virus 40	17, 18
Vaccinia	17,18
MS2	19
PRD1	19
Fungi, Algae, Mold, Yeast, Spores	
<i>Alterania alternata</i>	8,12
<i>Aphanizomenon</i> sp.	22
<i>Aspergillus flavus</i>	2, 5, 6, 7, 11, 14
<i>Aspergillus niger</i>	2, 5, 6, 7, 8, 11, 12, 13, 14
<i>Aspergillus sydowi</i>	5, 6, 7, 11
<i>Aspergillus terreus</i>	5, 6, 7, 11, 14
<i>Aspergillus versicolor</i>	2, 5, 6, 7, 11
<i>Aspergillus verrucaria</i>	14
<i>Aureobasidium pullans</i>	5, 6, 7, 8, 11, 12
<i>Candida albicans</i>	1, 2, 5, 6, 7,14
<i>Candida pseudotropocalis</i>	5, 6, 7, 11
<i>Chaetomium globsum</i>	1
<i>Cladosporium cladosporioides</i>	8,12
<i>Chlorella vulgaris</i>	19
<i>Dreschlera australiensis</i>	8,12
<i>Epidermophyton</i> sp.	9
<i>Gliomastix cerealis</i>	8,12
<i>Gloeophyllum trabeum</i>	5, 6, 7,
<i>Microsporum</i> sp.	9
<i>Microsporum audouinii</i>	21
<i>Monilia grisea</i>	8, 12
<i>Oscillatoria</i> sp.	20
<i>Penicillium chrysogenum</i>	5, 6, 7,
<i>Pencillium commune</i>	8,12
<i>Penicillium funiculosum</i>	1, 2, 5,

Penicillium pinophilum	5, 6, 7,
Penicillium variable	5, 6, 7,
Phoma fimeti	8,12
Pithomyces chartarum	8,12
Poria placenta	5, 6, 7, 11
Scenedesmus sp.	20
Saccharomyces cerevisiae	5,6,7,11,13,14
Scolecobasidium humicola	8, 12
Selenastrum sp.	22
Trichoderma viride	5, 6, 7, 11
Trichophyton interdigitale	2,14
Trichophyton maidson	14
Trichophyton mentogrophytes	5, 6, 7, 9, 11
Trichophyton sp.	9
Protozoa Parasites	
Cryptosporidium parvum (oocysts)	19

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