

DUOMAX

To whom it may concern.

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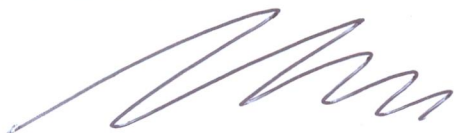
DuoMax is a disinfectant formulation originating from the United Kingdom that is based on European antimicrobial technology. It is a broad spectrum disinfectant (effective against a wide variety of microbial agents) with high level activity (effective against, for example poliovirus). This agent has been extensively tested for its biocidal properties to standards set by the Comitee Europeen de Normalisation, listed in appendix A.

In my opinion DuoMax is an effective infection control agent, when used in a managed infection control program. My understanding is that it is an economical agent to use, with low human toxicity and low ecotoxicity. The agent is appropriate for the following uses when applied at recommended dosage:

1. Surface disinfection, by direct application onto surfaces.
2. Zonal disinfection by spraying
3. Hand disinfection
4. Disinfection of water (but it is not suitable for preparation of drinking water).
5. Hospital use.
6. Domestic use

DuoMax is effective against the major carriers of bacterial gastroenteritis that are members of the Enterobacteriaceae that include the genera *Escherichia*, *Salmonella*, *Shigella* and *Yersinia* (see Appendix A, Table 1). In addition, DuoMax has shown specific capability against *Vibrio cholera*. DuoMax has virucidal capability and has shown to be capable of being effective against the classes of virus that cause gastroenteritis in Appendix A, Table 2. DuoMax is tested effective against influenza A virus, Hepatitis B virus and Hepatitis C virus. In addition, this agent is effective against food spoilage organisms and fungal agents that are responsible for damage to the fabric of wooden buildings.

Yours Faithfully



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Dr Chris Woodall, Bsc (Hons), PhD (Soton) is the founder and CEO of BluTest. He is a virologist by training at the Universities of Glasgow and Edinburgh. Chris works as an expert for CEN (Comite Europeen de Normalisation) TC 216 (Biocides and antiseptics) TC216 Working Group 2 (London); TC216 Viral Task Group (Rome) and is Convenor of TC 216 Sporocidal Task Group (Paris/Berlin/London). These committees are responsible for designing EN standards for testing the efficacy of biocides against a range of micro-organisms. They design new standard tests for biocides and are involved in ring trials for CEN and the OECD.

APPENDIX A.

Tabel 1: DuoMax has the capability to be effective against the following bacterial causes of gastroenteritis

Bacterium.	Stability in water	Resistance to chlorine	Size (µm)	Associated severe disease
<i>Burkholderia pseudomallei</i>	Can multiply	Low	1.0-4.0	Melioidosis(septicaemia)
<i>Campylobacter jejuni</i> , <i>C. coli</i>	Moderate	Low	1.5-4.0	Diarrhoea (frequently with blood in the faeces)
<i>Escherichia coli</i> (Pathogenic and Enterohaemorrhagic)	Moderate	Low	0.2 -2.0	Diarrhoea (frequently with blood in the faeces); haemolytic uraemic syndrome
<i>Legionella</i> species	Can multiply	Low	0.5 -3.0	Fatal pneumonia
<i>Salmonella typhi</i>	Moderate	Low	0.2 -2.0	Typhoid fever
<i>Shigella</i> species	Short	Low	0.2 -2.0	Bacillary dysentery
<i>Vibrio cholera</i>	Short	Low	1.0 -3.0	Cholera
<i>Yersinia enterocolitica</i>	Long	Low	0.2 -2.0	Diarrhoea (frequently with blood in the faeces)

Tabel 2: DuoMax has the capability to be effective against the following viral causes of gastroenteritis

Virus	Stability in water	Resistance to chlorine	Size (µm)	Associated severe disease
Adenovirus 40, 41	High	Moderate	0.07	Severe childhood gastroenteritis
Enteroviruses	High	Moderate	0.03	Myalgia, meningitis, paralysis
Hepatitis A virus	High	Moderate	0.03	Hepatitis
Noroviruses	High	Moderate	0.03	Mild gastroenteritis
Sapoviruses	High	Moderate	0.03	Mild gastroenteritis
Rotaviruses	High	Moderate	0.06	Severe childhood gastroenteritis

EN 1276 2009 Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas (phase 2, step 1) *Escherichia coli*, *Staphylococcus aureus*; *Pseudomonas aeruginosa*, *Enterococcus hirae*

EN 1276 2009 VIBRIO CHOLERAЕ Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of bactericidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic and institutional areas (phase 2, step 1)

EN 1650 Chemical disinfectants and antiseptics — Quantitative suspension test for the evaluation of fungicidal activity of chemical disinfectants and antiseptics used in food, industrial, Domestic and institutional areas — (phase 2, step 1) *Aspergillus niger* and *Candida albicans*

EN 14476:2005 Chemical disinfectants and antiseptics - Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine - Test method and requirements (phase 2/step 1). (poliovirus-1 and adenovirus-5)

EN 14476:2005 Chemical disinfectants and antiseptics - Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine - Test method and requirements (phase 2/step 1) Modified for Influenza A virus.

EN 14476:2005 Chemical disinfectants and antiseptics - Virucidal quantitative suspension test for chemical disinfectants and antiseptics used in human medicine - Test method and requirements (phase 2/step 1) Modified for hepatitis C virus