



Evans Vanodine International plc
GLOBAL HYGIENE SOLUTIONS

EST-EEM



MICROBIOLOGICAL PROFILE

EST-EEM MICROBIOLOGICAL PROFILE

INTRODUCTION

EST-EEM is an unperfumed liquid disinfectant and multi-purpose cleaner.

EST-EEM has been tested using European Standard methods to meet specific classification/regulatory demands. The results reported in this profile have been carried out on dilutions of the concentrated product.

European Standard test methods EN 1276, EN 1650 and EN 16615 were performed in the UKAS accredited Microbiology Laboratory (Testing No. 1108) of Evans Vanodine International Plc.

Tests with additional bacteria *Campylobacter jejunii*, *Listeria monocytogenes* and vaccinia virus were performed by independent expert laboratories.

EN 1276 uses four reference bacteria, *Enterococcus hirae*, *Escherichia coli* (*E.coli*), *Pseudomonas aeruginosa* and *Staphylococcus aureus* as representatives of the main bacterial types.

Pseudomonas aeruginosa is considered to be one of the most resistant bacteria to disinfectants and therefore the effective dilutions against this bacterium are normally used to determine recommended in-use dilutions.

PLEASE REFER TO PRODUCT LABEL FOR HOW TO USE AND FOR ALL RECOMMENDED DILUTION RATES.

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Activity against bacteria in suspension using

EN 1276

BACTERIA	DISEASE / INFECTION	Bactericidal dilutions under simulated "dirty conditions"*	
		CONTACT TIMES	
		30 seconds	5 minutes
<i>Enterococcus hirae</i>	Urinary tract infections	1:200	1:400
<i>Escherichia coli</i>	Food poisoning	1:25	1:50
<i>Pseudomonas aeruginosa</i>	Opportunistic pathogen, wound, burn infections	1:25	1:25
<i>Staphylococcus aureus</i>	Skin, bone and wound infections	1:50	1:200
<i>Campylobacter jejunii</i>	Food poisoning		1:200
<i>Escherichia coli</i> "0157"	Food poisoning		1:50
<i>Listeria monocytogenes</i>	Food poisoning		1:200
<i>Methicillin resistant Staphylococcus aureus</i>	Skin, bone and wound infections		1:100
<i>Salmonella pullorum</i>	Food poisoning		1:50
<i>Salmonella typhimurium</i>	Food poisoning		1:25
<i>Shigella sonnei</i>	Dysentery		1:50

*As defined in EN 1276

EST-EEM MICROBIOLOGICAL PROFILE

Activity against bacteria in suspension using EN 1276

BACTERIA	DISEASE / INFECTION	Bactericidal dilutions under simulated "clean conditions"*
		CONTACT TIME
		5 minutes
<i>Enterococcus hirae</i>	Urinary tract infections	1:200
<i>Escherichia coli</i>	Food poisoning	1:100
<i>Pseudomonas aeruginosa</i>	Opportunistic pathogen, wound, burn infections	1:25
<i>Staphylococcus aureus</i>	Skin, bone and wound infections	1:200

*As defined in EN 1276

TEST METHOD REFERENCE

EN 1276

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

Designed to test bactericidal products specifically for use in the Food and Catering Industry. It is carried out under "dirty" (representative of surfaces which are known to or may contain organic and/or inorganic materials) and "clean" (representative of surfaces which have received a satisfactory cleaning programme and/or are known to contain minimal levels of organic and/or inorganic materials) conditions.

Additional contact times were used as well as the obligatory test conditions.

Test Parameters: 5 minute contact time and 30 seconds, 20°C, hard water, dirty and clean conditions.

Bactericidal Criteria: ≥ 5 log reduction \equiv 99.999% reduction.

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Activity against yeast in suspension using

EN 1650

YEAST	DISEASE / INFECTION	Yeasticidal dilutions under simulated "dirty conditions"*
		CONTACT TIME
		1 minute
<i>Candida albicans</i>	Thrush	1:25

*As defined in EN 1650

TEST METHOD REFERENCE

EN 1650

Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of fungicidal or yeasticidal activity of chemical disinfectants and antiseptics used in food, industrial, domestic, and institutional areas.

Designed to test fungicidal products specifically for use in the Food and Catering Industry. It is carried out under "dirty" (representative of surfaces which are known to or may contain organic and/or inorganic materials) and "clean" (representative of surfaces which have received a satisfactory cleaning programme and/or are known to contain minimal levels of organic and/or inorganic materials) conditions.

Test parameters: 1 minute contact time, 20°C, hard water, dirty conditions.
 Yeasticidal criteria: ≥ 4 log reduction \equiv 99.99% reduction.

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Activity against bacteria and yeast on surfaces using EN 16615

BACTERIA	DISEASE / INFECTION	Bactericidal dilutions under simulated “dirty conditions”
		CONTACT TIME
		1 minute
<i>Enterococcus hirae</i>	Urinary tract infections	1:100
<i>Escherichia coli</i>	Food poisoning	1:100
<i>Pseudomonas aeruginosa</i>	Opportunistic pathogen, wound, burn infections	1:25
<i>Staphylococcus aureus</i>	Skin, bone and wound infections	1:100
YEAST	DISEASE / INFECTION	Yeasticidal dilution under simulated “dirty conditions”
		CONTACT TIME
		1 minute
<i>Candida albicans</i>	Thrush	1:50

Modified* EN 16615

Chemical disinfectants and antiseptics Quantitative test method for the evaluation of bactericidal and yeasticidal activity on non-porous surfaces with mechanical action employing wipes, in the medical area (4-field test). Modified for use with products used in the food, industrial, domestic and institutional area as detailed below:

There is currently no published surface test with mechanical action (wiping) for products used in food, industrial, domestic and institutional areas. According to EN 14885 4.2.6 ‘where in EN 14885 no standard exists for a specific activity in an area a standard from another area may be used and test conditions modified for relevance to the area of application to match the specific application’.

Test Parameters: 1 minute contact time, 20°C, dirty conditions.
Bactericidal Criteria: ≥ 5 log reduction \equiv 99.999% reduction.

Test parameters: 1 minute contact time, 20°C, dirty conditions.
Yeasticidal criteria: ≥ 4 log reduction \equiv 99.99% reduction.

*Modifications

The modifications are more representative of surfaces etc. encountered in food, industrial, domestic and institutional areas.

Stainless steel surfaces used in place of PVC tiles

Interfering substance used for dirty conditions is equivalent to that in EN 1276 and EN 13697

Addition of *Escherichia coli* to the list of organisms to be tested

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Activity against enveloped viruses using EN 14476

VIRUS		EFFECTIVE DILUTION
		CONTACT TIME
		5 minutes
Vaccinia virus	Used as a surrogate for enveloped viruses	1:15

Vaccinia virus is used to assess virucidal activity against enveloped viruses. According to EN 14476 the test for virucidal activity against enveloped viruses will cover all enveloped viruses only. Annex A of EN 14476 includes Coronavirus in the examples of enveloped viruses. Other examples are given below.

A pass in EN 14476 against vaccinia virus allows a claim for effectiveness against Coronavirus COVID-19. Therefore EST-EEM at the dilution of 1:15 with a 5 minute contact time, used in the test, can be considered effective.

TEST METHOD REFERENCE

EN 14476

Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of virucidal activity of chemical disinfectants and antiseptics used in the medical area.

This European Standard applies to products that are used in the medical area in the fields of hygienic handrub, hygienic handwash, instrument disinfection by immersion, surface disinfection by wiping, spraying, flooding or other means and textile disinfection. This European Standard applies to areas and situations where disinfection is medically indicated.

Test parameters: 5 minute contact time, 20°C, hard water, low level soiling.
Requirements: ≥ 4 log reduction \equiv 99.99% reduction.

Information taken from EN 14476: Annex A.

The following examples of human enveloped viruses may contaminate hands, instruments, other surfaces and textiles. The list is not exhaustive.

Coronavirus	Human T Cell Leukemia Virus (HTLV)
Filoviridae	Influenza virus
Flavivirus	Measles virus
Hepatitis B virus (HBV)	Paramyxoviridae
Hepatitis C virus (HCV)	Poxviridae
Hepatitis delta virus (HDV)	Rabies Virus
Herpesviridae	Rubella Virus
Human Immunodeficiency virus (HIV)	