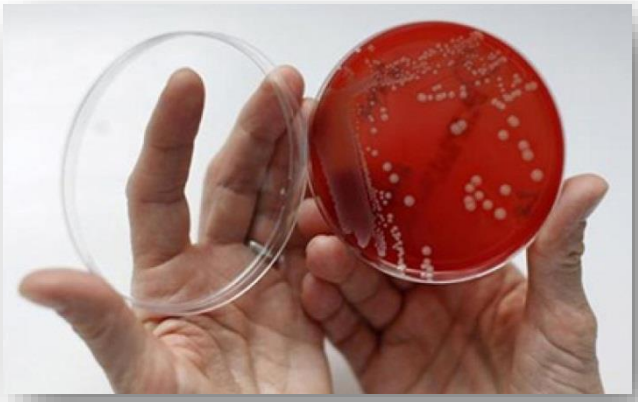
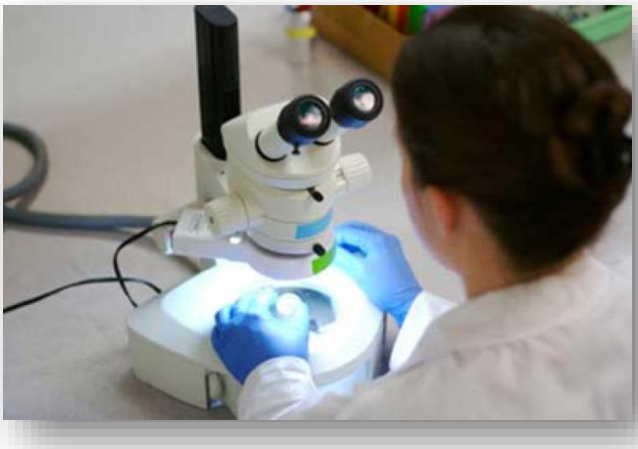
Evans Vanodine International plc

GLOBAL HYGIENE SOLUTIONS

HANDSAN





MICROBIOLOGICAL PROFILE

HANDSAN MICROBIOLOGICAL PROFILE

INTRODUCTION

HANDSAN is a ready to use, quick acting and highly effective, alcohol based hygienic hand rub.

HANDSAN is an authorised biocide UK-2019-1195-0001.

HANDSAN is bactericidal and virucidal against enveloped viruses, it evaporates from hands leaving no odour or residue.
HANDSAN is suitable for areas where food is handled, prepared and served and for areas where soap and water are not readily available.

HANDSAN is ideal for use in between patient contact in non-surgical medical care establishments to help prevent the risk of cross infection.
The Infection Control Nurses Association (ICNA) recommends the use of an alcohol-based waterless handrub for the following:

Before and after patient contact	After removing gloves	Before and after meals/breaks
After contact with items or surfaces that are likely to be contaminated		Following personal hygiene measures

HANDSAN has been tested and proven to be effective against a range of bacteria. European Standard (EN) methods were carried out by the UKAS accredited Microbiology Laboratory of Evans Vanodine International PLC. (Testing number 1108) In addition EN 1500 which involves experimental exposure of hands with *Escherichia coli* followed by application of the product was carried out by an independent laboratory.

HANDSAN has also been tested against Leptospira, Mycobacteria and viruses at independent expert laboratories using appropriate methods.

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Activity against bacteria under practical conditions using

EN 1500

BACTERIA	DISEASE / INFECTION	BACTERICIDAL DILUTION
		Contact time
		1 minute
Escherichia coli	Food poisoning, urinary tract infections	UNDILUTED

Test carried out at an independent testing laboratory

TEST METHOD REFERENCE

EN 1500

Chemical disinfectants and antiseptics – Hygienic handrub – Test method and requirements

The method simulates practical conditions for establishing whether a product for hygienic handrub reduces the release of transient flora according to the requirements when rubbed onto the artificially contaminated hands of 20 volunteers. The standard applies to products for hygienic handrub in areas where disinfection is medically indicated e.g. Hospitals, dental practices, clinics of schools and nursing homes.

Test parameters: Two applications with two 30 second contact times under clean conditions
Requirement: Must give a significantly greater log reduction than the reference product propan-2-ol on the twenty subjects assessed.

Activity against Leptospira

BACTERIA	DISEASE / INFECTION	BACTERICIDAL DILUTION
		Contact time
		30 seconds
Leptospira interrogans	Leptospirosis (Weil's disease)	UNDILUTED

Test carried out at an independent testing laboratory

Activity against *Leptospira interrogans*

Test parameters: 30 seconds contact time, room temperature
Requirement: No detection of Leptospires

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Activity against bacteria in suspension using

EN 1276

BACTERIA	DISEASE / INFECTION	Bactericidal dilution under simulated "clean conditions"*
		Contact time
		30 seconds
Acinetobacter baumannii	A common and important cause of multiple drug resistant infections in ICUs	UNDILUTED
Enterococcus hirae	Urinary tract infections	UNDILUTED
Escherichia coli	Food poisoning, urinary tract infections	UNDILUTED
Escherichia coli ESBL (Extended Spectrum Beta Lactamase)	Urinary tract infections. Resistant to certain antibiotics i.e. cephalosporins	UNDILUTED
Proteus vulgaris	Urinary tract infections	UNDILUTED
Pseudomonas aeruginosa	Opportunistic pathogen, wound, burn infections	UNDILUTED
Shigella sonnei	Dysentery	UNDILUTED
Staphylococcus aureus	Skin, bone and wound infections	UNDILUTED
Streptococcus pyogenes	Throat infections	UNDILUTED

*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. Additional organisms were used as well as the four obligatory test organisms.

Test parameters: 30 second time, 20°C, clean conditions.
Requirement: ≥5 log reduction ≡ 99.999% reduction.

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Activity against bacteria in suspension using EN 13727

BACTERIA	DISEASE / INFECTION	Bactericidal dilution under simulated "clean conditions"*
		Contact time
		30 seconds
Enterococcus hirae	Urinary tract infections	UNDILUTED
Escherichia coli "0157"	Food poisoning which can result in enteritis and haemolytic uraemic syndrome (characterised by renal failure)	UNDILUTED
Escherichia coli K12	Food poisoning	UNDILUTED
Methicillin Resistant *Staphylococcus aureus* (MRSA)	Skin, bone and wound infections, pneumonia. Resistant to treatment with the antibiotic Methicillin	UNDILUTED
Pseudomonas aeruginosa	Opportunistic pathogen, wound, burn infections	UNDILUTED
Salmonella typhimurium	Food poisoning (linked with cattle) resulting in gastro-enteritis	UNDILUTED
Shigella sonnei	Dysentery	UNDILUTED
Staphylococcus aureus	Skin, bone and wound infections	UNDILUTED
Streptococcus pyogenes	Wound infections	UNDILUTED

*As defined in 13727

TEST METHOD REFERENCE

EN 13727

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

Designed to test bactericidal products used in hospitals, health centres, dental practices, school/nursery clinics and nursing homes where disinfection or antisepsis is medically indicated. Additional organisms were used as well as the four obligatory test organisms.

Hygienic hand rub parameters: 30 second contact time, 20°C, clean conditions.
Requirement: ≥3 log reduction ≡ 99.9% reduction.

HANDSAN MICROBIOLOGICAL PROFILE

Activity against Mycobacteria in suspension using

EN 14348

MYCOBACTERIA	DISEASE / INFECTION	Mycobactericidal dilution under simulated "clean conditions"*
		Contact time
		1 minute
Mycobacterium terrae	Severe skin infections.	UNDILUTED

*As defined in 14348

TEST METHOD REFERENCE

EN 14348

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

Designed to test mycobactericidal products used in hospitals, health centres, dental practices, school/nursery clinics and nursing homes where disinfection or antisepsis is medically indicated.

Test parameters: 1 minute contact time, 20°C, low level soiling.
Mycobactericidal criteria: ≥4 log reduction ≡ 99.99% reduction.

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Activity against yeast in suspension using

EN 13624

YEAST	DISEASE / INFECTION	Yeasticidal dilution under simulated "clean conditions"*
		Contact time
		30 seconds
Candida albicans	Thrush	UNDILUTED

*As defined in 13624

TEST METHOD REFERENCE

EN 13624

Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of fungicidal or yeasticidal activity in the medical area.

Designed to test fungicidal or yeasticidal products used in hospitals, health centres, dental practices, school/nursery clinics and nursing homes where disinfection or antisepsis is medically indicated.

Hygienic hand rub parameters: 30 second contact time, 20°C, clean conditions.
Requirement: ≥3 log reduction ≡ 99.9% reduction

HANDSAN MICROBIOLOGICAL PROFILE

Activity against enveloped viruses using

EN 14476

VIRUS	DISEASE / INFECTION	EFFECTIVE DILUTION
		Contact time
		30 seconds
Porcine Influenza A (H1N1)	Influenza	UNDILUTED
		1 minute
Vaccinia virus	Used as a surrogate for enveloped viruses	UNDILUTED

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 on page 8.

A pass in EN 14476 against vaccinia virus allows a claim for effectiveness against Coronavirus COVID-19. Therefore HANDSAN **undiluted with a 1 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 in the medical area

Designed to test the virucidal activity of products specifically for use in the medical area (instruments, surfaces and hands). It was carried out under “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.

Vacciniavirus **For activity against enveloped viruses**

Test parameters: 1 minute contact time, 20°C, clean conditions.
Virucidal requirement: ≥4 log reduction ≡ 99.99% reduction.

Additional virus tested:

Porcine Influenza A H1N1

Test parameters: 30 second contact time, 20°C, clean conditions.
Virucidal requirement: ≥4 log reduction ≡ 99.99% reduction.

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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)	

Activity against enveloped viruses using

Indirect test methods not EN methods

VIRUS	DISEASE / INFECTION	EFFECTIVE DILUTION
		Contact time
		30 seconds
Hepatitis B (HBV)	Hepatitis B	UNDILUTED
Human Immunodeficiency type 1 (HIV)	AIDS	UNDILUTED

All virus tests were carried out by expert virology laboratories.

Hepatitis B (HBV)

An indirect method of measuring the activity against Hepatitis B was used as this virus cannot be propagated in tissue culture. The test method relies on the destruction of the surface antigen of HBV. The method is recommended by the German Association for the Control of Viral Diseases and usually makes greater demands on the concentration or contact time of the disinfectant than methods such as the demonstration of destruction of HBV DNA polymerase. The test was carried out at room temperature with a 30 seconds contact time. No surface antigen remained detectable at the end of the contact time.

Human Immunodeficiency Virus Type 1 (HIV)

The test method uses an assay for measuring the concentration of a virus specific molecule in an infected blood sample following exposure of the sample to the disinfectant. The loss of detectable virus specific molecules is used as a marker of virus ‘killing’. The assay is likely to underestimate the effectiveness of the disinfectant against HCV because the molecule detected is relatively resistant to chemical degradation, it is however, essential for infectivity and so its disappearance following treatment is a good indication of virus inactivation.