

VANTOCIL™ FHC Antimicrobial

PRODUCT
INFORMATION BULLETIN

VANTOCIL FHC Antimicrobial is a highly effective, non-staining Disinfectant Detergent Concentrate for the cleaning and disinfection of all hard surfaces as part of a regular cleaning and infection control program.

- Cleans and disinfects any hard surface without abrasion or bleaching
- Suitable for use on a wide range of surfaces, such as Metal, Wood, Glass and Plastics
- Suitable for routine cleaning and disinfection of walls and floors
- Suitable for sanitation of surfaces in food preparation areas

Application areas include:

- Hospital hygiene
- Poultry & livestock hygiene
- Industrial & institutional hygiene
- Domestic hygiene
- Food & dairy hygiene

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- Effective against a wide spectrum of bacteria, yeast and viruses.
- Effective against the causative agent of swine flu (Swine Influenza A H1N1 virus).
- Effective against the Hepatitis C virus.
- Effective against the causative agent of viral gastroenteritis (Rotavirus).
- Effective against HIV.
- Disinfects according to the norm EN1276:1997 (0.2% VANTOCIL FHC Antimicrobial, 5 min contact time).
- Disinfects according to the norm EN1650:1998 (0.1% VANTOCIL FHC Antimicrobial, 15 min contact time) against *Candida albicans* and *S.cerevisiae*.
- Disinfects according to the norm EN1656:2000 (1% VANTOCIL FHC Antimicrobial, 30 min contact time at 10°C) against *Ps.aeruginosa*.
- Still effective in the presence of high level organic contamination.
- Non-acidic.
- Leaves a fresh scent.
- Effective in all water conditions.
- Compatible with most washable interior surfaces.
- Economical in use.
- No release of vapours, fumes or odours that aggravate the respiratory system.
- Excellent soil tolerance and dirt dissolution properties.
- Rapid acting.

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MICROBIOLOGICAL DATA

VANTOCIL FHC Antimicrobial is effective against a wide spectrum of bacteria, yeast and fungi. The Minimum Inhibitory Concentrations against a wide range of organisms are listed below. Minimum inhibitory concentrations (MICs) do not represent effective use levels but do indicate the intrinsic broad spectrum of activity of VANTOCIL FHC Antimicrobial. VANTOCIL FHC Antimicrobial has a non-specific mode of biocidal action which means that bacterial resistance is very unlikely to occur.

Minimum Inhibitory Concentrations (MICs) - Gram Negative Bacteria

Organism	Strain No.	MIC (ppm VANTOCIL FHC Antimicrobial)
<i>Aeromonas hydrophila</i>	ATCC 7966	80
<i>Acinetobacter baumannii</i>	ATCC 19606	64
<i>Acinetobacter baumannii (MAR)</i>	Wild Type	32
<i>Campylobacter jejuni</i>	ATCC 29428	20
<i>Citrobacter freundii</i>	ATCC 8090	20
<i>Edwardsiella tarda</i>	NCTC 11934	10
<i>Enterobacter aerogenes</i>	ATCC 13048	20
<i>Enterobacter cloacae</i>	NCIB 8271	20
<i>Enterobacter cloacae</i>	NCTC 11936	128
<i>Enterobacter cloacae (MAR)</i>	Wild Type	32
<i>Escherichia coli</i>	NCIB 9132	20
<i>Escherichia coli</i>	ATCC 11775	40
<i>Escherichia coli 0157:H7</i>	ATCC 12900	20
<i>Klebsiella aerogenes</i>	NCTC 9528	80
<i>Klebsiella pneumoniae</i>	NCIB 11467	20
<i>Proteus mirabilis</i>	NCTC 10975	300
<i>Proteus rettgeri</i>	NCTC 7475	160
<i>Proteus vulgaris</i>	NCTC 4175	100
<i>Pseudomonas aeruginosa</i>	ATCC 25668	80
<i>Pseudomonas aeruginosa</i>	NCTC 10662	128
<i>Pseudomonas aeruginosa (MAR)</i>	Wild Type	128
<i>Salmonella choleraesuis</i>	ATCC 13311	20
<i>Salmonella typhimurium</i>	ATCC 14028	40
<i>Salmonella poona</i>	NCTC 4840	20
<i>Serratia marcescens</i>	NCIMB 9523	160

MAR = Multiple Antibiotic Resistance

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Minimum Inhibitory Concentrations (MICs) - Gram Positive Bacteria

Organism	Strain No.	MIC (ppm VANTOCIL FHC Antimicrobial)
<i>Bacillus cereus</i>	ATCC 9139	20
<i>Bacillus cereus</i>	ATCC 10876	40
<i>Bacillus subtilis</i>	NCIB 3610	2.5
<i>Bacillus subtilis</i>	ATCC 6633	5
<i>Enterococcus faecium</i>	NCIB 11508	10
<i>Enterococcus faecium</i>	NCTC 7171	32
<i>Enterococcus faecium (MAR)</i>	Wild Type	32
<i>Listeria monocytogenes</i>	ATCC 15313	5
<i>Mycobacterium smegmatis</i>	NCIB 8548	5
<i>Staphylococcus aureus</i>	ATCC 6538	5
<i>Staphylococcus aureus (MRSA)</i>	NCTC 11940	10
<i>Staphylococcus aureus (MRSA)</i>	NCTC 12493	2.5
<i>Staphylococcus aureus</i>	NCTC 6571	16
<i>Staphylococcus aureus (EMRSA 15)</i>	Wild Type	32
<i>Staphylococcus aureus (EMRSA 16)</i>	Wild Type	64
<i>Staphylococcus aureus</i>	NCTC 1803	10
<i>Staphylococcus epidermis</i>	ATCC 14990	5
<i>Streptococcus faecalis</i>	NCTC 775	10
<i>Streptococcus lactis</i>	NCTC 7944	10
<i>Streptococcus pyogenes</i>	NCTC 8306	8

EMRSA = Epidemic Methicillin Resistant *Staphylococcus aureus*

Minimum Inhibitory Concentrations (MICs) - Yeast and Fungi

Organism	Strain No.	MIC (ppm VANTOCIL FHC Antimicrobial)
<i>Candida albicans</i>	ATCC 90028	64
<i>Candida albicans</i>	ATCC 10231	40
<i>Rhodotorula rubra</i>	NCYC 1659	20
<i>Saccharomyces cerevisiae</i>	ATCC 9763	20
<i>Saccharomyces cerevisiae</i>	NCPF 3178	80
<i>Alternaria tenuis</i>	-	300
<i>Aspergillus niger</i>	-	1000
<i>Aureobasidium pullulans</i>	-	60
<i>Chaetomium globosum</i>	-	60
<i>Trichoderma viride</i>	-	600
<i>Penicillium rubrum</i>	-	300
<i>Trichophyton mentagrophytes</i>	-	100

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VANTOCIL FHC Antimicrobial disinfects according to the norm EN1276:1997. The levels of VANTOCIL FHC Antimicrobial needed to pass EN1276:1997 are listed below. EN1276 is the quantitative suspension test for the evaluation of bactericidal activity of Chemical Disinfectants used in Food Production, Industrial, Domestic and Institutional areas. Dilutions of the disinfectant are tested for the ability to reduce the bacterial load with only a 5 min exposure time for each of the different problematic bacterial strains. Stringent test conditions (hard water and high level of organic contamination) apply. VANTOCIL FHC Antimicrobial also disinfects according to the norm EN1650:1998. EN1650 is the quantitative suspension test for the evaluation of fungicidal activity of Chemical Disinfectants used in Food Production, Industrial, Domestic

and Institutional areas. Dilutions of the disinfectant are tested for the ability to reduce the fungal load with a 15 min exposure time. Stringent test conditions (hard water and organic contamination) apply. VANTOCIL FHC Antimicrobial disinfects according to the norm EN1656:200. EN1656 is the quantitative suspension test for the evaluation of bactericidal activity of Chemical Disinfectants used in the Veterinary Area. VANTOCIL FHC Antimicrobial has also been shown to be active against a range of viruses important in the food processing and medical application areas, including Rotavirus, Hepatitis C and HIV. VANTOCIL FHC Antimicrobial has also been shown to be effective against the causative agent of swine flu (Swine Influenza A (H1N1) Virus).

Feature	Test Method	Test Conditions	Test Organisms	Pass Level VANTOCIL FHC Antimicrobial Dilution
Bactericidal Activity	EN1276:1997	Hard water, dirty conditions (0.3% BSA), 5 mins contact time	<i>Pseudomonas aeruginosa</i> ATCC 15442, <i>Escherichia coli</i> ATCC 10536, <i>Staphylococcus aureus</i> ATCC 6538, <i>Enterococcus hirae</i> ATCC 10541 & <i>Lactobacillus brevis</i> DSM6235	1:500
Bactericidal Activity (Breweries)	EN1276:1997	Hard water, dirty conditions (0.3% BSA), 1% yeast extract, 5 mins contact time	<i>Pseudomonas aeruginosa</i> ATCC 15442	1:300
Bactericidal Activity (Soft Drink Processing)	EN1276:1997	Hard water, dirty conditions (0.3% BSA) & 1% sucrose, 5 mins contact time	<i>Pseudomonas aeruginosa</i> ATCC 15442	1:125
Bactericidal Activity (Milk Processing)	EN1276:1997	Hard water, dirty conditions (0.3% BSA) & 1% skimmed milk, 5 mins contact time	<i>Pseudomonas aeruginosa</i> ATCC 15442	1:100
Yeasticidal Activity	EN1650:1998	Hard water, dirty conditions (0.3% BSA), 15 mins contact time	<i>Candida albicans</i> ATCC 10231 <i>Saccharomyces cerevisiae</i> ATCC 9763	1:1000
Bactericidal Activity (Animal Hygiene)	EN1656:2000	Hard water, dirty conditions (10g/l of bovine serum albumen plus 10g/l of yeast extract), 10°C, 30 minute contact time)	<i>Pseudomonas aeruginosa</i> ATCC 15442	1:100
Food Processing & Domestic	Based on EN1276:1997	Sterile water, dirty conditions (0.3% BSA), 5 mins contact time	Rotavirus	1:1000
Virucidal (Medical Applications)	Hard surface disinfectant test	Hard water, 5% serum, 1 minute contact time	Human Immunodeficiency Virus type 1	1:500
Virucidal (Medical Applications)	Hard surface disinfectant test	Hard water, 5% serum, 1 minute contact time	Bovine Viral Diarrhoea virus as a surrogate virus for Human Hepatitis C virus	1:200
Virucidal (All Application Areas)	Hard surfacedisinfectant test	Hard water, 5% serum, 10 minute contact time	Swine Influenza A (H1N1)	1:500

BSA = Bovine Serum Albumin

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SPECIFICATIONS

Composition	An aqueous solution of PHMB, benzalkonium chloride, non-ionic surfactants, colour and perfume
Active agent	20% w/w
Physical form	Clear to slightly opalescent green liquid
Viscosity at 20°C	90 mPa.s
pH at 25°C	5.0-6.0
Boiling Point	102°C
Storage stability	Stable under normal conditions of storage down to 0°C. If frozen, allow to thaw at room temperature and stir thoroughly before use. Active agents are heat-stable and non-volatile.
Flash point	Boils without flashing
Density at 25°C	1.02
Odour	Hygienic
Water solubility	High
Usage aids	Product must be dispensed using a suitable dosing pump to ensure safe and accurate dosing.

AMOUNT TO USE

For general one-stage cleaning and disinfection purposes, **VANTOCIL FHC** Antimicrobial is recommended at a dilution of 1:500 to 1:100 in either hot or cold water. Its activity has been demonstrated under conditions representative of practical use and a range of use concentrations is provided below.

Application Area	VANTOCIL FHC Antimicrobial In-Use Dilution
Hospital hygiene	1:200-1:100
Poultry & livestock hygiene	1:300-1:100
Industrial & institutional hygiene	1:200-1:100
Domestic hygiene	1:200-1:100
Food & dairy hygiene	1:300-1:100

Note: After using **VANTOCIL FHC** Antimicrobial, all surfaces that come into contact with food must be thoroughly rinsed with potable water before use.

DIRECTIONS FOR USE

Hospital and I&I Hygiene

VANTOCIL FHC Antimicrobial is recommended for use in all areas and on most surfaces in care homes, food packaging industries and catering establishments.

Disinfection: Use **VANTOCIL FHC** Antimicrobial at a dilution of 1:200 to 1:100 (25ml to 50ml in 5 litres of water) for mopping floors and cleaning of walls. Surfaces must be allowed to remain wet for at least 5 minutes.

Food & Dairy Hygiene

Disinfection: Use **VANTOCIL FHC** Antimicrobial at a dilution of 1:100 (50ml in 5 litres of water) for mopping floors, cleaning equipment and cleaning of walls. Surfaces must be rinsed with water after allowing 5 minute contact time.

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HEALTH & SAFETY

The VANTOCIL FHC Antimicrobial Safety Data Sheet can be supplied on request. It should be made available to, read and understood by all supervisory personnel and employees before using this product. If there is any doubt please contact your local Arch sales office for advice.

REGULATORY INFORMATION

The components of VANTOCIL FHC Antimicrobial are in compliance with the following inventories:

EINECS	(European Union)
TSCA	(USA)
ACOIN/ AICS	(Australia)
ENCS	(Japan)
DSL	(Canada)
KECL	(Korea)
IECSC	(China)
PICCS	(Philippines)

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SAFE HANDLING INFORMATION

Use biocides safely. Always read the label and product information before use. Refer to the Material Safety Data Sheet (MSDS) available from Arch Chemicals, Inc. for information on the safe use, handling and disposal of this product.

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