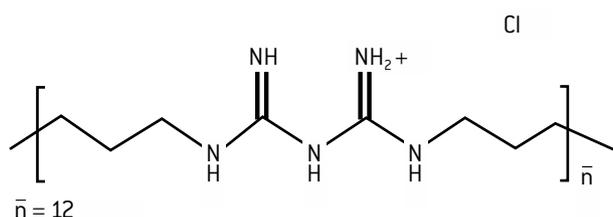


Vantocil® TG Antimicrobial

Vantocil® TG Antimicrobial is a broad-spectrum, fast acting bactericide for the formulation of disinfectants and sanitizers, for use in industrial, institutional, veterinary, food, beverage and domestic disinfection applications. Vantocil® TG Antimicrobial is a 20% aqueous solution of poly[hexamethylenebiguanide] hydrochloride, also known as PHMB.

PHMB can be represented by the general structure:



Applications

Vantocil® TG Antimicrobial is effective in a wide range of industrial disinfection applications, primarily as a solid surface disinfectant. Application areas include:

- Hospitals
- Institutions
- Veterinary establishments
- Dairies
- Milking parlours
- Poultry hatcheries
- Food processing plants
- Breweries
- Yoghurt fermentation
- Cheese moulds
- Beer glass cleaners

Antimicrobial Properties

The levels of Vantocil® TG Antimicrobial needed to prevent the growth of problem micro-organisms are listed in Table 1.

MICs do not represent effective use levels but do indicate the intrinsic broad spectrum of activity of Vantocil® TG Antimicrobial.

Vantocil® TG Antimicrobial has a non-specific mode of biocidal action which means that bacterial resistance is very unlikely to occur. Detailed information on the mode of action of Vantocil® TG Antimicrobial is available on request.

Table 1
Minimum Inhibitory Concentrations (MIC)

Micro-organism	Strain No.	Vantocil® TG Antimicrobial (ppm product)
Bacteria		
<i>Bacillus subtilis</i>	NCIB 3610	1.5
<i>Enterobacter cloacae</i>	NCIB 8271	40
<i>Escherichia coli</i> 0157:H7	NCTC 12900	80
<i>Legionella pneumophila</i>	–	5
<i>Listeria monocytogenes</i>	ATCC 15313	30
<i>Proteus vulgaris</i>	NCTC 4175	40
<i>Pseudomonas aeruginosa</i>	ATCC 15442	40
<i>Pseudomonas putida</i>	–	25
<i>Salmonella choleraesuis</i>	ATCC 13311	120
<i>Salmonella typhimurium</i>	ATCC 14028	160
<i>Staphylococcus aureus</i>	ATCC 6538	30
<i>Streptococcus faecalis</i>	–	5
<i>Streptococcus lactis</i>	NCTC 7944	20
Yeasts		
<i>Candida albicans</i>	ATCC 10231	300
<i>Rhodotorula rubra</i>	NCYC 1659	7.5
<i>Saccharomyces cerevisiae</i>	ATCC 9763	300
Amoeba		
<i>Acanthamoeba polyphaga</i>	–	5

Table 2
Typical Physical Properties

The data and information provided in the following table is not part of a product specification. For purposes of Quality Assurance please refer to the Product Specification and the Certificate of Analysis, which are available on request.

Composition	An aqueous solution of PHMB
Active Agent	20% w/w
Physical Form	Slightly opalescent colourless to pale yellow liquid
Viscosity at 25°C	5 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 agent is heat-stable and non-volatile.
Flash Point	Boils without flashing
Density at 25°C	1.04
Odour	No strong odour
Foaming/Surface Tension	Has significantly less tendency to tension foam than quaternary ammonium compounds. PHMB is not surface active.
Compatibility	Effective and stable over pH range 1–11. Compatible with nonionic surfactants, glycols, glycol ethers, most strong acids and common chelating agents such as EDTA, NTA, IDS. Limited compatibility with anionic surfactants, strong alkalis, complex phosphates and strong oxidisers.

Amount to Use

Vantocil® TG Antimicrobial can be used alone or in combination with other biocides to create products for a wide range of disinfection applications.

Considerable data exists which provides a measure of the intrinsic antimicrobial activity of Vantocil® TG Antimicrobial, generated via European suspension test protocols relevant to application in Food, Industrial, Domestic and Institutional Hygiene.

Its activity has been further demonstrated under conditions representative of practical use, and a range of use concentrations is provided in Table 3. However, it is recommended that field tests under practical conditions be undertaken to determine the most cost-effective dose for your application.

This data and information on the compatibility of Vantocil® TG Antimicrobial with a range of formulating chemicals is available on request.

Table 3
Applications

Application Area	% Vantocil® TG Antimicrobial (w/w) in sanitiser use solution
Disinfection of pre-cleaned solid surfaces: Hospitals Food Processing Veterinary establishments Poultry hatcheries	0.1 – 0.2
Water treatment applications: Air conditioning	0.01 – 0.1
Fermentation equipment: Yoghurt Cheese moulds	0.3 – 0.5
Acid descaler sanitizer: Milking parlours Breweries	0.4 – 0.7
Tunnel pasteurization: Canning and bottling plants	0.005 – 0.01

Technical Service

Lonza technical laboratories can provide a range of testing as part of our customer support programme. Please contact your nearest Lonza sales office to take advantage of these customised services.

Risk Assessment & Management

Lonza professionals have a wide expertise in the fields of Safety, Health and the Environment. Lonza is committed to and uses this expertise in understanding the suitability of Vantocil® TG Antimicrobial for specific applications. Please contact your local Lonza office should you have questions in this area.

Health and Safety

The Vantocil® TG Antimicrobial Safety Data Sheet may be supplied upon request. It should be read and understood by all supervisory personnel and employees before using this product. If there is any doubt please contact your local Lonza sales office for advice.

Total Quality

Lonza holds a number of ISO 9001 Quality Management registrations covering our product range. The scope of each registration is specific to the location or entity named on the Registration Certificate and our products are supplied to ISO 9001 Standards.

Regulatory Information

Vantocil® TG Antimicrobial has many worldwide regulatory approvals, including approvals for use as a sanitiser for food handling equipment, in breweries, and in dairies. Since approvals are regularly being gained, we are constantly updating our records. A full, up to date list is available on request.

The components of Vantocil® TG Antimicrobial are in compliance with the following inventories:

- EINECS (European Union)
- TSCA (USA)
- ACOIN/AICS (Australia)
- ENCS (Japan)
- DSL (Canada)
- Korean Inventory

Enquiries for further information and samples should be addressed to your local sales office.



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Use Biocides Safely. Review and follow all product safety instructions. All product information corresponds to Lonza's knowledge on the subject at the date of publication, but Lonza makes no warranty as to its accuracy or completeness and Lonza assumes no obligation to update it. Product information is intended for use by recipients experienced and knowledgeable in the field, who are capable of and responsible for independently determining the suitability of ingredients for intended uses and to ensure their compliance with applicable law. Proper use of this information is the sole responsibility of the recipient. This information relates solely to the product as an ingredient. It may not be applicable, complete or suitable for the recipient's finished product or application; therefore republication of such information or related statements is prohibited. Information provided by Lonza is not intended and should not be construed as a license to operate under or a recommendation to infringe any patent or other intellectual property right. No claims are made herein for any specific intermediate or end-use application.

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