

# Cosmocil<sup>®</sup> CQ

## Antimicrobial Agent

## Technical Information Bulletin

### Summary

COSMOCIL<sup>®</sup> CQ is a broad spectrum antimicrobial used for the preservation of personal care products against spoilage. It is based on the active agent polyhexamethylene biguanide hydrochloride (PHMB).

COSMOCIL CQ is listed in the CFTA International Nomenclature of Cosmetic Ingredients as Polyaminopropyl biguanide.

### Features and Benefits

- Broad spectrum of activity against a wide range of spoilage organisms especially Gram negatives.
- Heat stability
  - non-volatile and stable at elevated temperatures
- Broad pH compatibility
  - effective over pH range 1.0-9.0
- Liquid formulation
  - easily incorporated into the aqueous phase
- No odor
- Low taint
- Low foaming
- Low mammalian toxicity
- Low environmental impact
  - bioeliminated by absorption when discharged to effluent
- Support from AVECIA's Biocide Team

### Amount to Use

The amount of preservative required to provide adequate protection depends on several factors including the nature of the product, its susceptibility to microbiological attack, the extent to which microorganisms can gain access, the organisms present, the pH of the product, the temperature of storage and the length of time for which protection is required. As such factors depend on individual circumstances, trials should be carried out to determine both compatibility with the personal care formulation and optimum COSMOCIL CQ dosage.

Table 1:

### Typical Levels of Addition for Trial Purposes

Application	% w/w
Personal care	0.05-2.0
Wet wipes	0.2 -1.0

### When to Add

Since microorganisms are often introduced into products through water and other raw materials, it is recommended that COSMOCIL CQ be added at an early stage of production to eradicate these potentially harmful microorganisms. Normally the most convenient method of addition is to incorporate COSMOCIL CQ into the water phase.

### Storage

Keep on closed containers under normal conditions.

### Health and Safety

AVECIA Biocides maintains Material Safety Data Sheets on all its products which are updated regularly. These sheets contain appropriate health and safety advice needed to protect employees and customers.

For technical information, literature, sample and order information, please contact AVECIA Biocides Customer Services: 800-523-7391.

For more information visit our website at [www.aveciabiocides.com](http://www.aveciabiocides.com).

### Packaging

COSMOCIL CQ is packaged in 55-gallon drums and 5-gallon pails.

## Antimicrobial Properties

The effectiveness of COSMOCIL CQ against a wide range of spoilage organisms is shown below:

### Minimum Inhibitory Concentrations (M.I.C.)

Organism	COSMOCIL CQ ppm
<b>Bacteria</b>	
<i>Bacillus subtilis</i>	2.5
<i>Staphylococcus albus</i>	1
<i>Staphylococcus aureus</i>	1
<i>Staphylococcus epidermidis</i>	5
<i>Enterococcus faecium</i>	25
<i>Streptococcus lactis</i>	25
<i>Enterobacter cloacae</i>	20
<i>Escherichia coli</i>	25
<i>Klebsiella pneumoniae</i>	25
<i>Proteus vulgaris</i>	200
<i>Pseudomonas aeruginosa</i>	100
<i>Pseudomonas putida</i>	25
<i>Serratia marcescens</i>	25
<b>Fungi</b>	
<i>Aspergillus niger</i>	750
<i>Trichophyton mentagrophytes</i>	25
<b>Yeasts</b>	
<i>Candida albicans</i>	300
<i>Saccharomyces cerevisiae</i> ( <i>ellipsoideus</i> )	100
<i>Saccharomyces cerevisiae</i> ( <i>pastorianus</i> )	100
<i>Saccharomyces cerevisiae</i> ( <i>turbidans</i> )	75

## Properties of COSMOCIL CQ

Composition:	Aqueous solution of polyhexa-methylene biguanide
Active Agent	
Content, %:	20
Physical Form:	Slightly opalescent colorless to pale yellow liquid
Viscosity (25°C):	5
Specific Gravity (25°C/25°C):	1.04 (approx)
pH, (25°C):	5.0-5.5
Boiling Point:	102°C (approx.)
Stability:	Stable under all normal conditions of storage but must be protected from intense heat and frost.
Solubility:	Soluble in water, ethanol, glycerine and propylene glycol. Insoluble in hydrocarbons, vegetable and animal oils, and aromatic solvents.
Compatibility:	Compatible with nonionic detergents, acids, quaternary ammonium compounds and cationic materials. Incompatible with anionic surfactants e.g. soaps, alkyl sulphonates and anionic caramels. Precipitated by strong alkalis and complex phosphates.

For more information, visit our website at [www.aveciabiocides.com](http://www.aveciabiocides.com).



ISO 9002  
FS 22484

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### FOR YOUR PROTECTION

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### Avecia Biocides

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