

# Antimicrobial Protection

According to the CDC, hospital acquired infections kill nearly 100,000 Americans per year with 2 million patients needing additional treatment costing over \$25B. Over the last 10 years customers have been working with Conventus Polymers on materials that minimize infection rates. With the current Covid-19 outbreak, new customers are partnering with Conventus to develop custom anti-pathogen compounds.

Conventus formulates a solution, supplies the raw material, and certifies materials with test report documentation to enable customers to maximize the benefits of their anti-pathogen products.

## Protect the Part...Protect People

- ▶ Offering several antimicrobial technologies
- ▶ Active self-cleaning in between use of disinfectants
- ▶ Prevention of microbial growth to limit odor development, discoloration, staining, and part degradation
- ▶ Wash resistant and instantly active (inorganic only)

### FIT

Applications where common pathogens grow unchecked: fungal, bacterial or viral

### FORM

Performance additive for textile fibers or melt processable plastic products

### FUNCTION

Inhibit harmful pathogen growth and indirectly reduce contact transfer

## Antimicrobial Protection

Applications	Inorganic	Organic
Films	✓	✓
Textiles	✓	✓
Molded Thermoplastics	✓	✓
Colorable	Limited	Broad
Use Conditions	Inorganic	Organic
Temperature	Stable	Limited
Topical Disinfectant	Stable	Limited
Non-Migratory Washable	Stable	Limited
Antimicrobial Type	Pathogens	
Inorganic	Fungal/Bacterial/Viral/Algae	
Organic	Fungal/Algae	





## Antimicrobial Additives - Testing Results

Type of Bacteria	Fabric Tested	When Tested	Number of Bacteria
Staphylococcus aureus	All fabrics	Upon inoculation	1-8x10 <sup>4</sup>
Staphylococcus aureus	Standard cloth	Inoculation 18 hours	1-2x10 <sup>7</sup>
Staphylococcus aureus	Polypropylene control	Inoculation 18 hours	1-2x10 <sup>7</sup>
Staphylococcus aureus	Additive @ 1.5% LDR	Inoculation 18 hours	<20
Escherichia coli	All fabrics	Upon inoculation	2-4x10 <sup>4</sup>
Escherichia coli	Standard cloth	Inoculation 18 hours	3-5x10 <sup>7</sup>
Escherichia coli	Polypropylene control	Inoculation 18 hours	3-4x10 <sup>7</sup>
Escherichia coli	Additive @ 1.5% LDR	Inoculation 18 hours	<20

## Quantitative Assessment of Activity: E. Coli, L. monocytogenes, and S. chloreraesuis

Concentration of Starting Inoculums			No. Bacteria Recovered in 24 Hours			Percent Reductoon		
E. Coli	L. monocytogenes	S. chloreraesuis	E. Coli	L. monocytogenes	S. chloreraesuis	E. Coli	L. monocytogenes	S. chloreraesuis
1.68E5	1.63E5	4.27E5	<2E1	5.04E1	2.88E2	>99.9	>99.9	>99.9

## Allowable Market Claims - Antimicrobials

### CAN

- ✓ Contains agents that will protect from:
  - Odor
  - Discoloration
  - Fouling
- ✓ Follow labeling of registered antimicrobial
  - End application (treated article exemption)
  - Polyester filament

### CANNOT

- ✗ Kill organisms dangerous to people or animals
- ✗ Prevent infections
- ✗ Protects against food spoilage
- ✗ Claims to control spread of allergens
- ✗ Protecting public health directly or indirectly

Source: Pesticide Registration (PR) Notice 2000-1  
Notice to Manufacturers, Formulators, Producers and Registrants of Pesticide Products.