



AEM 5700

Representative Microorganisms Controlled: A Partial Compendium

The ÆGIS Microbe Shield® was developed by Dow Corning Corporation in close cooperation with Baxter HealthCare, Burlington Industries and a number of major textile, medical products, carpeting, and carpet fiber companies in the United States, Europe, Australia, Japan and Korea. The results of their collective work show a remarkable product which, when properly reacted onto surfaces, makes these surfaces resistant to fungal, bacterial, and algal growth. PMRA registrations allow us and our customers a wide range of end uses that take advantage of the safety profile, durability and broad spectrum activity.

The following list has been prepared in response to numerous requests for a “list” of the microorganisms against which the technology is effective. The organisms shown are ones against which the technology has been specifically tested.

AEM 5700 Antimicrobial is considered to be a “broad spectrum” antimicrobial. That means that it is effective against a very wide range of microorganisms (fungi, gram(+) and gram(-) bacteria, yeasts, and algae). The microorganisms listed should be viewed as representative of the types of organisms against which the ÆGIS Microbe Shield® technology is effective, rather than as a comprehensive list.

Bacteria

Micrococcus sp.
Staphylococcus epidermidis¹
Enterobacter agglomerans¹
Acinetobacter calcoaceticus¹
methicillin-resistant staphylococcus aureus
Staphylococcus aureus(pigmented)¹
Staphylococcus aureus (nonpigmented)¹
Klebsiella pneumoniae ATCC 4352
Pseudomonas aeruginosa
Pseudomonas aeruginosa PRD-10
Streptococcus faecalis
Pseudomonas aeruginosa¹
Escherichia coli ATCC 23266
Escherichia coli¹
Proteus mirabilis
Citrobacter diversus¹
Salmonella typhosa
Proteus mirabilis¹
Salmonella choleraesuis
Corynebacterium bovis
Mycobacterium smegmatis
Mycobacterium tuberculosis
Brucella cania

Brucella abortus
Brucella suis
Streptococcus mutans
Bacillus subtilis
Bacillus cereus
Clostridium perfringens
Haemophilus influenzae
Haemophilus suis
Lactobacillus casei
Leuconostoc lactis
Listeria monocytogenes
Propionbacterium acnes
Proteus vulgaris
Pseudomonas cepacia
Pseudomonas fluorescens
Xanthomonas campestris

Fungi

Aspergillus niger
Aspergillus fumigatus
Aspergillus versicolor
Aspergillus flavus
Aspergillus terreus
Penicillium chrysogenum

Penicillium albicans
Penicillium citrinum
Penicillium elegans
Penicillium funiculosum
Penicillium humicola
Penicillium notatum
Penicillium variabile
Mucor sp.
Tricophyton mentagrophytes
Tricophyton interdigitalie
Trichoderma flavus
Chaetomium globosum
Rhizopus nigricans
Cladosporium herbarum
Aureobasidium pullulans
Fusarium nigrum
Fusarium solani
Gliocladium roseum
Oosopa lactis
Stachybotrys chartarum

Algae

Oscillatoria borneti LB143
Anabaena cylindrica B-1446-1C
Selenastrum gracile B-325
Pleurococcus sp. LB11
Schenedesmus quadricauda
Gonium sp. LB 9c
Volvox sp. LB 9
Chlorella vulgarus

Yeast

Saccharomyces cerevisiae
Candida albicans

1. Clinical Isolates

Interpretive Note

Although the list of microorganisms against which a biocide has been shown to be effective is important for determining whether or not the material can be used against specific types of organisms, it is only the starting point. Killing or controlling microorganisms (particularly in laboratory tests of the active ingredient) is relatively easy. Doing it safely, doing it in real world situations, doing it without ruining the target surface, and selecting between a quick kill and long term protection are generally much more important.

There are many materials and processes that can kill microorganisms quickly and effectively. Common household bleach (chlorine) is an excellent biocide. Unfortunately, bleach cannot be used on many surfaces, has no lasting antimicrobial effect, and can be very dangerous if used improperly. Extreme heat is also highly effective, but you can't put a sick building in an autoclave. Other materials are efficient at high concentrations, but have little effect at dilution levels that would be required to insure human safety. Finally, some materials are so inherently dangerous that they can only be used in isolation chambers or by professional applicators using respirators and "space suits".

The "killing power" of a biocide or device is important, but only if the material is used in strict accordance with PMRA accepted handling and use instructions and for the end uses included in the PMRA accepted labeling. Misuse of any biocide is not only illegal, it can be extremely dangerous.

Any reputable supplier should be willing to provide copies of the PMRA accepted labeling, copies of toxicity data and data on real world efficacy.