

# Facts About Antimicrobials

Whenever an antimicrobial technology uses the words embedded, bound, contained, or mixed in a coating, it is very different than “chemically bonded”. To say it is “bound” in a coating, adhered to or on a fiber, or embedded in a fiber does not mean it is chemically bonded. Understand the facts about mode of action and you will understand how

the organosilane technology of the ÆGIS Microbe Shield® technology molecularly reacts with the substrate remaining intact as part of the treated article. It is the only technology that modifies the surface and remains durable to control the negative effects of bacteria, fungi, algae, and other microorganisms.

|  | <b>SILANE BASED</b>   | <b>SILVER BASED</b>   | <b>TRICLOSAN BASED</b>   |
|--|---|---|--|
| Common Names/Variants  | The ÆGIS Microbe Shield   | AgION<br>Alphasan<br>A.M.Y.<br>Fosshield<br>Meryl Skinlife<br>X-Static<br>and others  | Amicor<br>Biofresh<br>Microban<br>Rhovyl<br>Sanitized<br>Ultrafresh<br>and others  |
| Mode of Action   | Engineered nano-structure mechanically punctures the cell wall membrane | Releases ionic free radicals that react with cell DNA and disrupt critical life processes in the cell                             | Releases toxic bis-chlorinated phenol (PCB) for consumption or cellular absorption, causing lethal mutations in the cell               |
| Leaching: Bleeds onto the user, into water, and into the environment | Does not Leach<br>Does not Migrate                                      | Leaches for its mode of action. Must leach to work.   | Leaches for its mode of action. Must leach to work   |
| Durability   | Permanent   | Embedded in or on fiber binder, or coating.   | Embedded in or on fiber binder, or coating.  |
| Cost   | Economical  | The cost of silver is high  | Medium cost  |
| Effectiveness  | Broad Spectrum on all known bacteria, fungi, algae, yeast               | Action variable based on concentration and test or use conditions   | Action variable based on concentration and test or use conditions  |
| Adaptive Organisms   | Laboratory proven not to promote adaptive organisms (super bugs)        | Can create adaptive zones<br>Resistant species identified   | Can create adaptive zones<br>Resistant species identified  |
| Applications   | Any fabric, any style, any process                                      | Choices often limited to select fibers. Some not compatible with organic fabric. Interfere with by common environmental chemicals | Can be applied differentially to multiple fabric types depending on application procedure, coating used, or expected end use and abuse |
| Distribution   | World wide  | Vary by company   | Not accepted or available in certain areas of the world  |