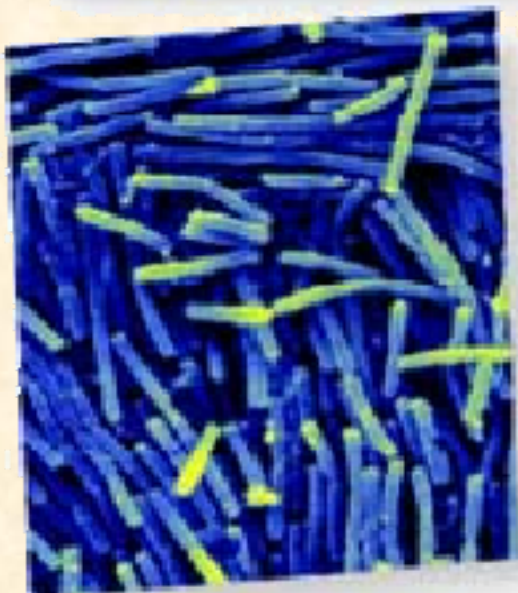
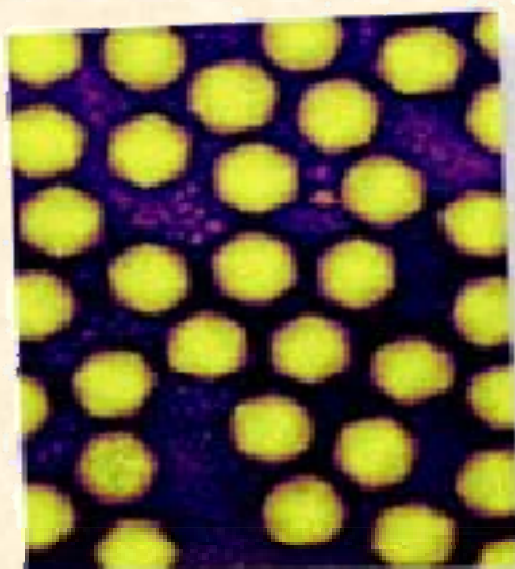


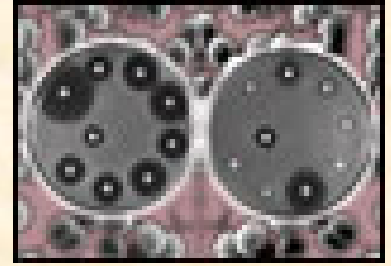
Antimicrobial Polymers

by Aardvark Polymers



Bacterial growth occurs at astonishing rates everywhere that moisture, heat, and a food source are present. Replication rates of millions of times per day lead to odors, discoloration, and the development of bioslime.

A new generation of antimicrobial polymers that can resist bacterial growth in aggressive environments while still delivering the thermal and mechanical properties of your base resins are now available. Aardvark Polymers is pleased to deliver the protection you need for your most demanding applications.



AARDVARK POLYMERS ANTIMICROBIALS

Aardvark Polymers is a pioneer in the field of antimicrobial polymers. Our antimicrobial additives are individually designed and formulated for compatibility with the base resins that suit your particular application.

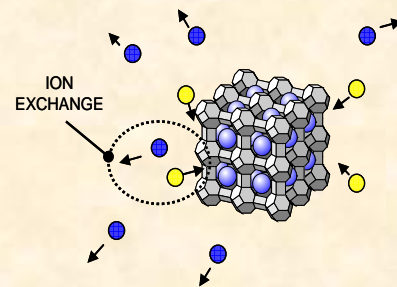
Aardvark provides antimicrobial solutions for standard plastics, engineering resins, high performance polymers, and ultra performance materials. Aardvark has recently expanded their antimicrobial initiatives to thermoset materials including epoxy resin systems, urethanes, and silicones.

Aardvark Polymers can create an antimicrobial solution for every polymer family. These solutions may be in finished resin, masterbatch formations, or to suit your requirements.

INORGANIC ION TECHNOLOGY

Aardvark Polymers employs inorganic ion technology to provide the protection that you require in your most demanding applications.

Inorganic ions are exchanged with bacteria at ambient moisture levels. The ions react with the sulfur, oxygen, or nitrogen within the micro organisms creating a defect in the cell wall. This defect disrupts the DNA structure of the cell ending replication. There is no defense against an inorganic silver ion exchange.



CARRIER DEVELOPMENT

Aardvark has developed the technologies required to build antimicrobial additives with the most effective carrier compounds for your specific resin applications. The carrier provides compatibility of the inorganic ions within the polymer matrix and assures thermal stability during processing.

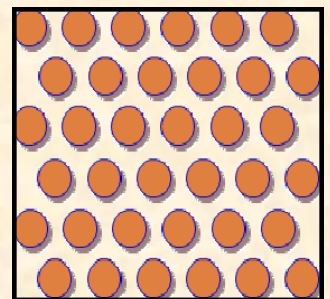
The carrier provides a controlled release of inorganic ions. Too slow a release may not offer adequate protection whereas too fast a release will likely cause a metallic complex in the polymer. The development of an effective carrier for a specific base resin is a key component in the formulation of antimicrobial polymers.

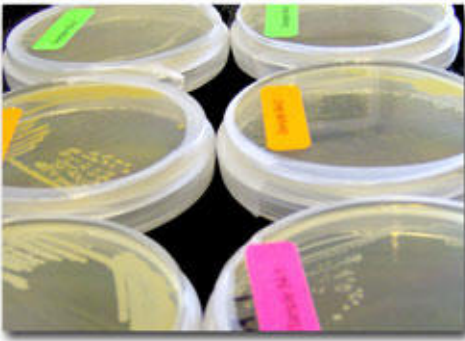
FULL LIFE CYCLE PROTECTION

Unlike topical antimicrobial treatments that are subject to wear and erosion, Aardvark's antimicrobial additives are designed for homogeneous dispersion throughout the polymer.

Aardvark's compounded additives are unaffected by scratches, wear, and abrasion. The homogeneous nature of the dispersion makes the antimicrobial agent self-renewing whenever the surface is worn, sawed, cut, or interrupted.

Aardvark antimicrobial additives provide full life protection for your products and may be recycled with conventional methods at the end of the product life cycle.





DETERMINED EFFICACY

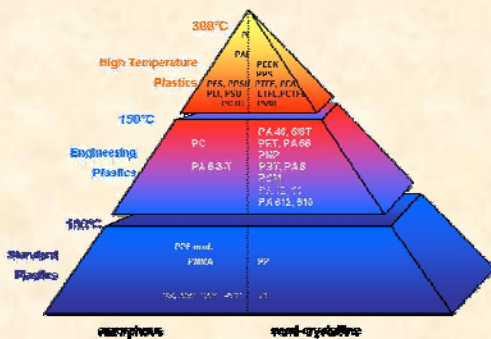
The efficacy rate of our antimicrobial polymers may be adjusted to suit your application at the most efficient levels. You get the protection you need at a price you can afford.

Our materials have been subjected to Efficacy Test Method JIS Z 2801; Qualitative Test for Microbe Proliferation and shown to be effective at varied loadings within specific time periods. Aardvark will assist you in determining the proper loading level for your application.

ACTIVE AGENT COMPLIANCE

The active agents in our antimicrobial additives meet a broad range of agency approvals and compliance requirements including:

- FDA –21CFR-174.5 USA approved for food contact
- EPA—FIFRA USA includes food and drinking water contact approvals
- NSF-Standard 61 USA certified for use in drinking water dispensing
- EFSA - Directive 89/109EEC EU approved SCF List 3 for use in food contact
- BDP - Directive 98/8 EU included on current biocides list annex 1
- SCF - Directive 98/8 EU dossier in review



POLYMER SELECTION

Aardvark can formulate an antimicrobial additive for all thermoplastic and thermoset materials. The selection process on which polymer to use as a base resin is wholly dependent upon the properties and characteristics required by your specific application.

The selection process begins with finding the proper base resin to meet your requirements. Once the proper resin is selected Aardvark will formulate a compatible carrier and determine the percentage of additive required to meet your efficacy requirements.

PROCESS AVAILABILITY

Aardvark Polymers antimicrobial resins and additives may be processed by all conventional methods including:

Injection molding ~ Extrusion processes ~ Compression molding ~ Thermoforming ~ Resin infusion ~ Rotational molding ~ Polymer coating ~ Cast polymers ~ Rapid prototyping ~ Blowmolding ~ Fabrication

Aardvark can develop a finished resin, an additive component, or a masterbatch solution to meet all of your processing requirements.



Antimicrobial properties apply to the polymer and polymer products only.

No public health claims are made for resins with antimicrobial additives.

Antimicrobial Market Opportunities



Clean rooms



Food packaging



Waste water treatment



Potable water



Pipe and irrigation



Sterile packaging



Appliances



Reusable totes



Food conveyors



Office equipment



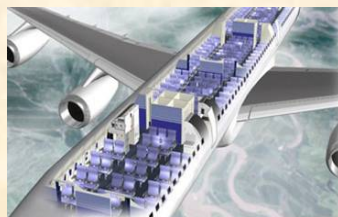
Medical



Bulk storage



Public Transportation



HVAC systems



Diagnostic equipment



gapolymers.com

For more information contact
Aardvark Polymers
+1-609-483-1013
info@aardvarkpolymers.com
www.aardvarkpolymers.com



Build Up Your Business

gapolymers.com

High Performance Polymers

Product, process, market, and Business development



*Celebrating the first 25 years.
1983-2008*

Aardvark Polymers is an operational subsidiary of Gehrig & Associates.