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Intellectual Property Status:

Patent Pending

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Molecular Films for Hydrophobic Implant Surfaces

AzTE Case # M10-028

Background

Cataracts, a clouding of the eye lens, are a common eye disorder among the population. According to the Center for Disease Control, approximately 20.5 million, or 17.2% of Americans age 40 years or older, have a cataract in one or both eyes. The numbers continue to grow and data suggests that by the year 2020, 30.1 million Americans will have cataracts in at least one eye.

A routine surgery can be performed in which a small incision is made in the eye and the clouded lens is removed and replaced by a new permanent intraocular implant. During surgery the implant is stored in a solution until ready for implantation, however there have been many reported cases in which during the fluid-air exchange from solution to insertion, the lens develops a foggy film reducing the effectiveness of the surgery.

Invention Description

Researchers at Arizona State University have developed a new molecular film for implant surfaces that eliminates the foggy film that can occur during the fluid air exchange. The new technology consists of a bilayer solution that effectively inhibits the foggy film, maintains the lens's clarity for longer than current solutions, and can be created entirely from FDA approved materials.

Potential Applications

- Goggles
- Eye Glasses
- Airplane Wings
- Paint
- Hair Care Products
- Mirrors
- Stainless Steel
- Clothing
- Microfluidics

Benefits and Advantages

- Elimination of the foggy film during the fluid air exchange
- More effective surgeries for both surgeons and patients
- Viable for a longer period of time during surgery compared to other products
- Longer shelf life than other current products