TriboGlide®

Silicone-Free Lubrication Systems

TriboFilm Research Inc. partnering with IVEK Corporation is pleased to present TriboGlide®, a silicone-free lubrication system for medical device and pharmaceutical applications. This revolutionary system offers a superior, inert and immobilized lubrication alternative to current siliconization methods. The technology utilizes a patented Perfluoropolyether chemisty, crosslinked through an Atmospheric Plasma Immobilization process. The process can be fully integrated to full-scale production platforms and offers a 100% parts inspection procedure for improved quality control.

Not Just Another Lubricant

TriboGlide® overcomes the existing problems caused by lubricant migration and drug interaction of conventional silicone oils. The immobilized TriboGlide® system also reduces the amount of particulates in the drug medium. Its low break-free forces eliminate inconsistent stick-slip performance of syringes, which can be particularly beneficial when used in syringe pumps and auto injectors. TriboGlide® can be used with all existing sterilization techniques and is FDA approved for externally communicating medical devices. A real-time quality control Optical Detection system also offers a precision measurement and data archive tool for each syringe processed to assure complete compliance to specifications.

Benefits Over Silicone Oil

Among lubricants, Silicone oil has one of the lowest Cohesive Energy Densities (a measure of intermolecular forces that keep the molecules together). Hence, silicone oil tends to migrate and can be a source of contamination. Perfluoropolyether, the precursor for TriboGlide® has a higher cohesive energy density, thus reducing the tendency to migrate. Additionally, the Atmospheric Plasma Immobilization crosslinks the PFPE lubricant onto the syringe barrel resulting in lower extractables in the drug. The crosslinked lubricant also results in lower break-free and extrusion forces.

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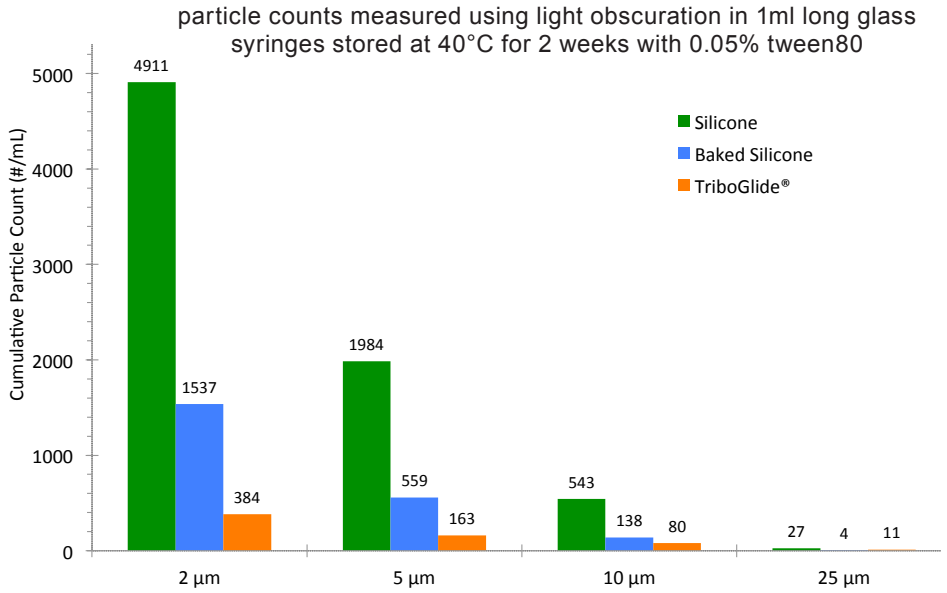
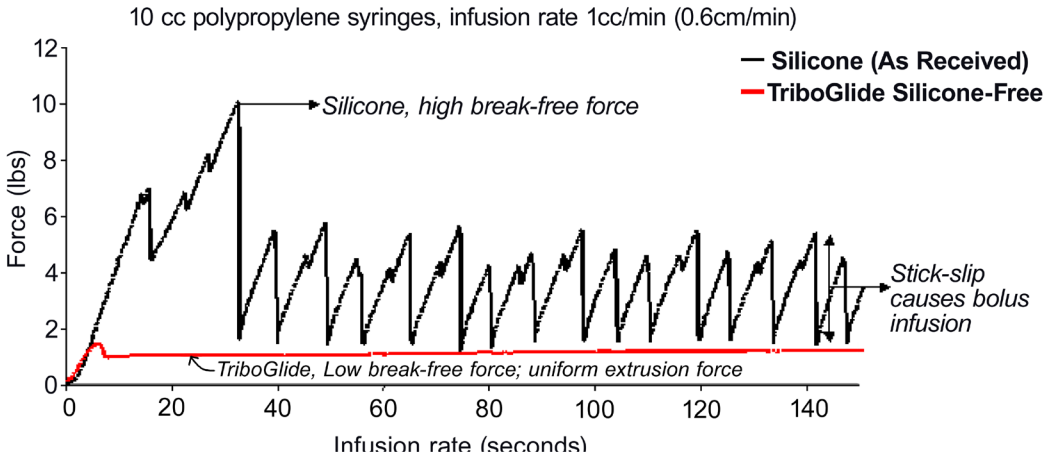
TriboGlide® Minimizes Problems Associated With Silicone Oil

- Silicone-Free Lubricant
- Chemically & Biologically Inert
- No Stick-Slip
- Controlled Glide Forces
- No Lubricant Migration
- Less Particulates in the Drug Medium
- Increase Protein Stability
- Compatible with Glass, Plastics & Metals
- In-Line Manufacturing Process
- Real-Time Quality Assurance
- Can Be Sterilized

Mean Particulate Count Per CC of Saline



Infusion Force Comparison



TriboGlide® Applications

TriboGlide® can be applied to a wide variety of applications in the medical device field, in addition to general industry. TriboGlide® is compatible with glass and plastic syringes, as well as needles and stoppers. Applications where low friction is desired using an inert immobile lubrication system are appropriate.

The following is a partial list:

- syringe barrel coating
- elastomer plunger lubrication
- needle lubrication & coating
- mechanical lubrication for devices
- endoscope lubrication
- pre-filled insulin syringes
- high purity applications
- infusion therapy
- pre-filled biologics & proteins
- vial coating
- syringe pump lines
- catheter lubrication
- & much more

CALL

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FREE APPLICATION TESTING AVAILABLE