

## Innovations and Regulations for Biobased and Sustainable Lubricants

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### Abstract

Green initiatives are everywhere. Bio-fuels, wind energy, renewable fibers are just a few of the environmental initiatives that have recently made headlines. Meanwhile some of the greatest innovations have been in the development and utilization of high performance, environmentally acceptable lubricants (EALs). This paper/presentation focuses on the innovations, features, benefits, strengths and limitation of the different types of EALs. It explores classification of base fluids and additives as well as the requirements of finished lubricants. It compares the performance of conventional petroleum products and biolubricants. The different definitions of environmental acceptability why that is important will be explored. The regulatory driving forces will be identified as well as the requirements for each. The considerations for choosing the type of EAL that is most applicable to specific applications will be studied. Finally, the best maintenance practices to ensure long fluid and equipment life will be discussed.

### Biography

Mark Miller is the CEO of Biosynthetic Technologies (BT), an Indianapolis-based company that provides high performance, renewable, non-toxic, biodegradable base fluids. Mr. Miller is a serial entrepreneur with a special emphasis on bio and sustainable technologies. Prior to BT, he co-founded and was CEO of Terresolve Technologies, Ltd. an environmentally safe chemical products company. Mr. Miller is also the Entrepreneur-in-Residence and a professor at The Ramapo College of New Jersey. He has engineered, sold and marketed environmentally acceptable lubricants and base oils for over 30 years. Mr. Miller has a B.S. in Chemical Engineering from Tufts University and an M.B.A. from Manhattan College. He also sits on the Board for The National Foundation For Animal Rescue (NAFFAR) and he and his wife, Shari, have adopted more than their share of homeless critters.

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